

FIG. 1

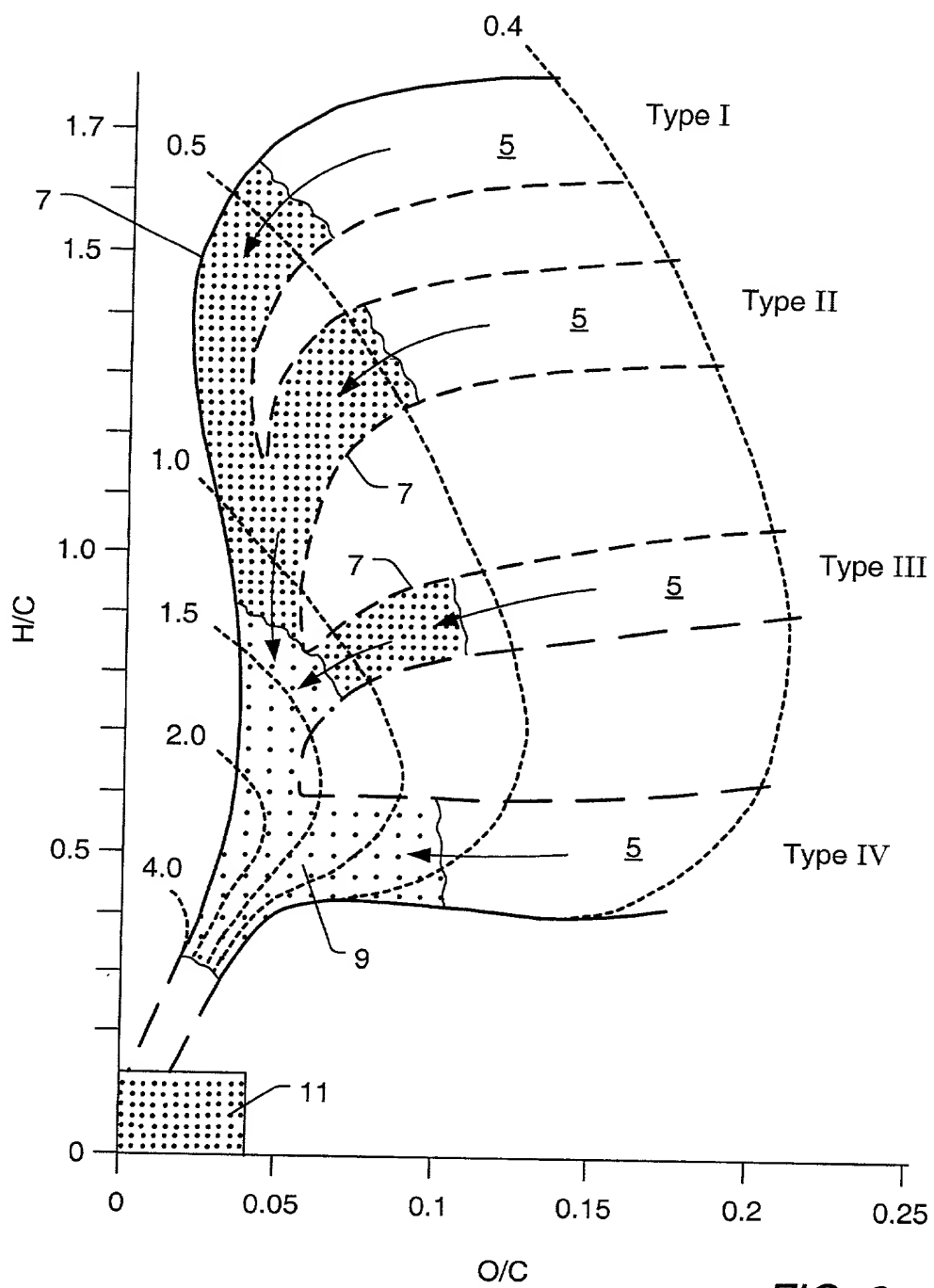


FIG. 2

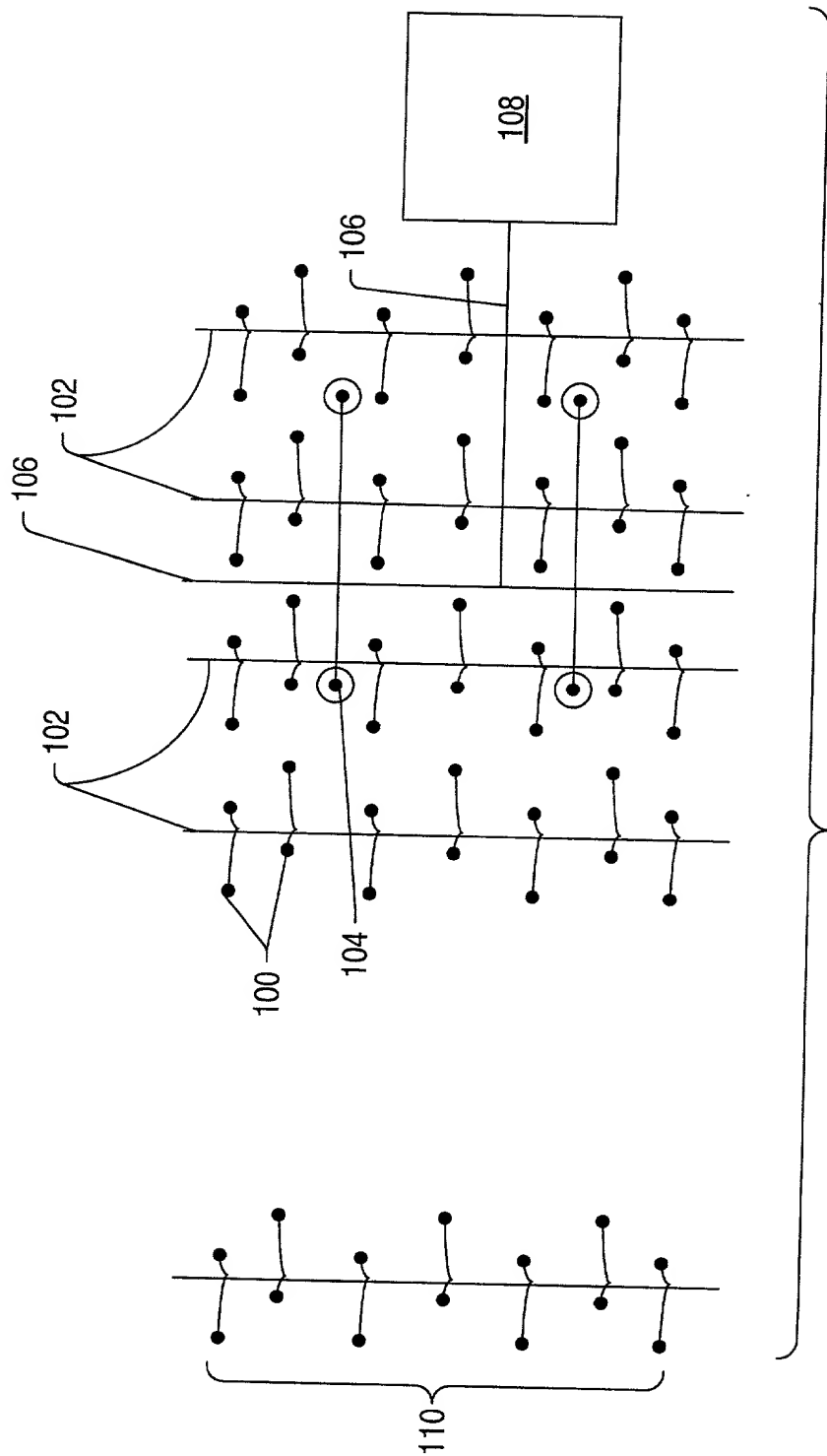


FIG. 3

FIG. 3a is a cross-sectional view of a device 200 in a first state. The device 200 includes a substrate 220 and a layer 222. A spring 224 is disposed on the layer 222. The spring 224 is in a compressed state, exerting a downward force on the layer 222. The layer 222 is deformed downwards at the location of the spring 224.

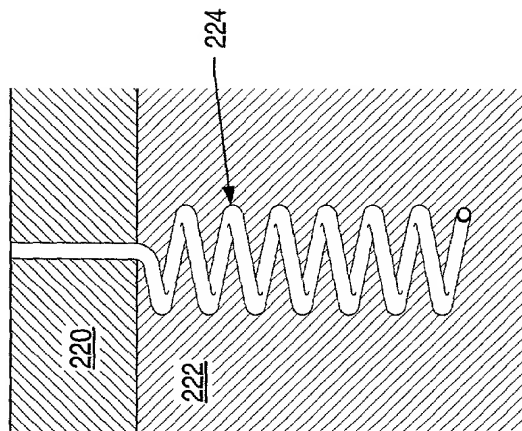


FIG. 3a

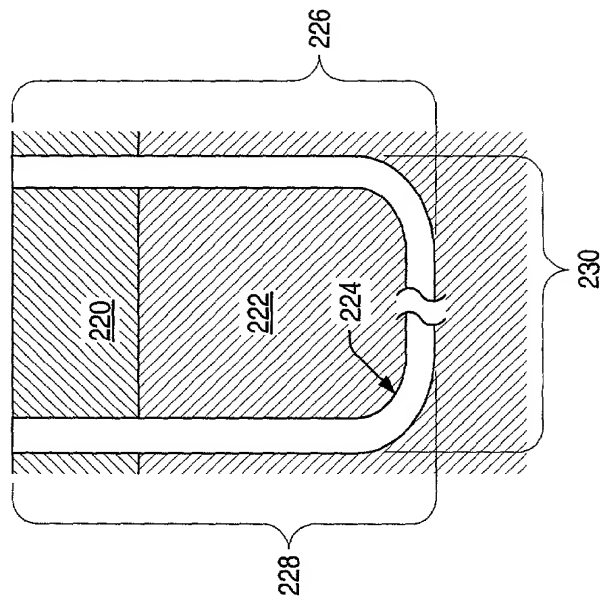


FIG. 3b

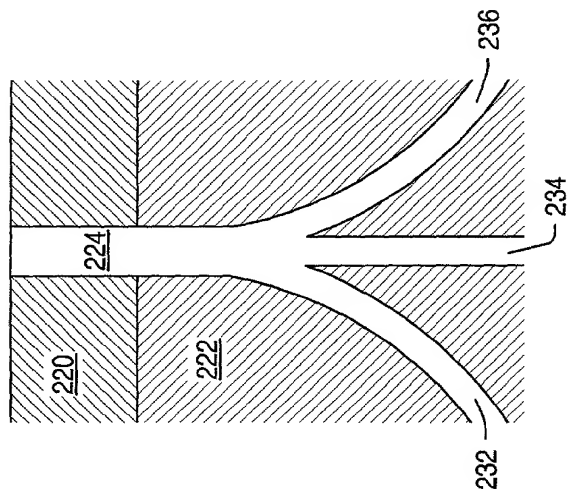


FIG. 3c

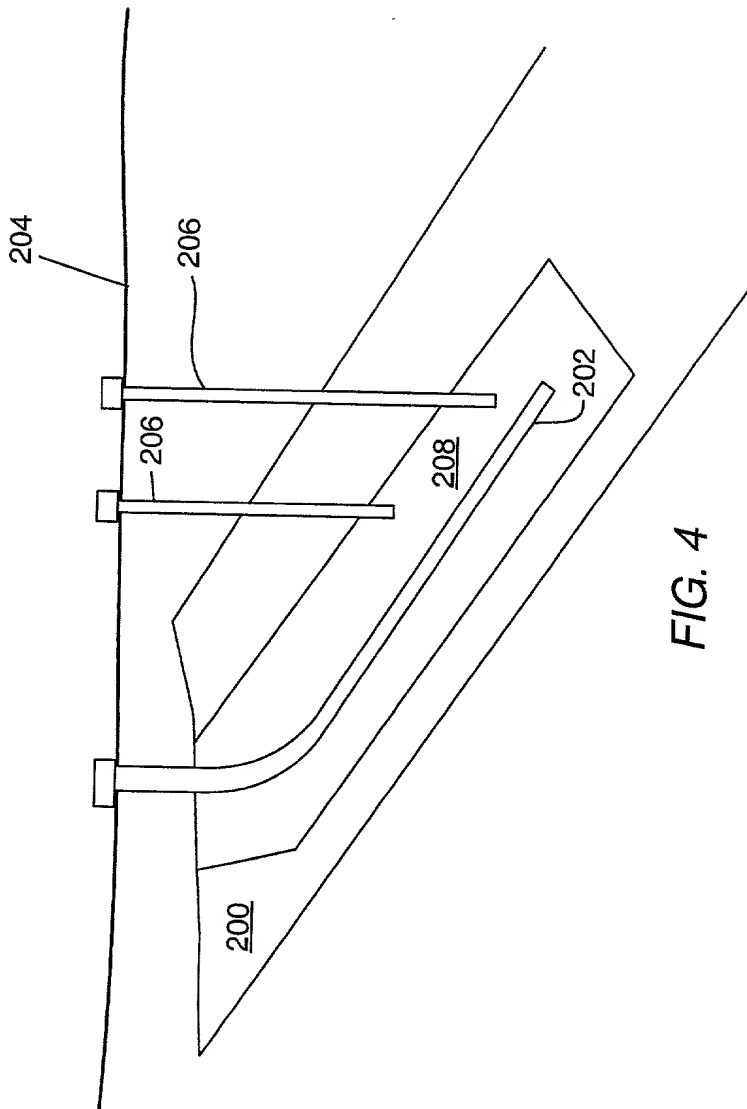


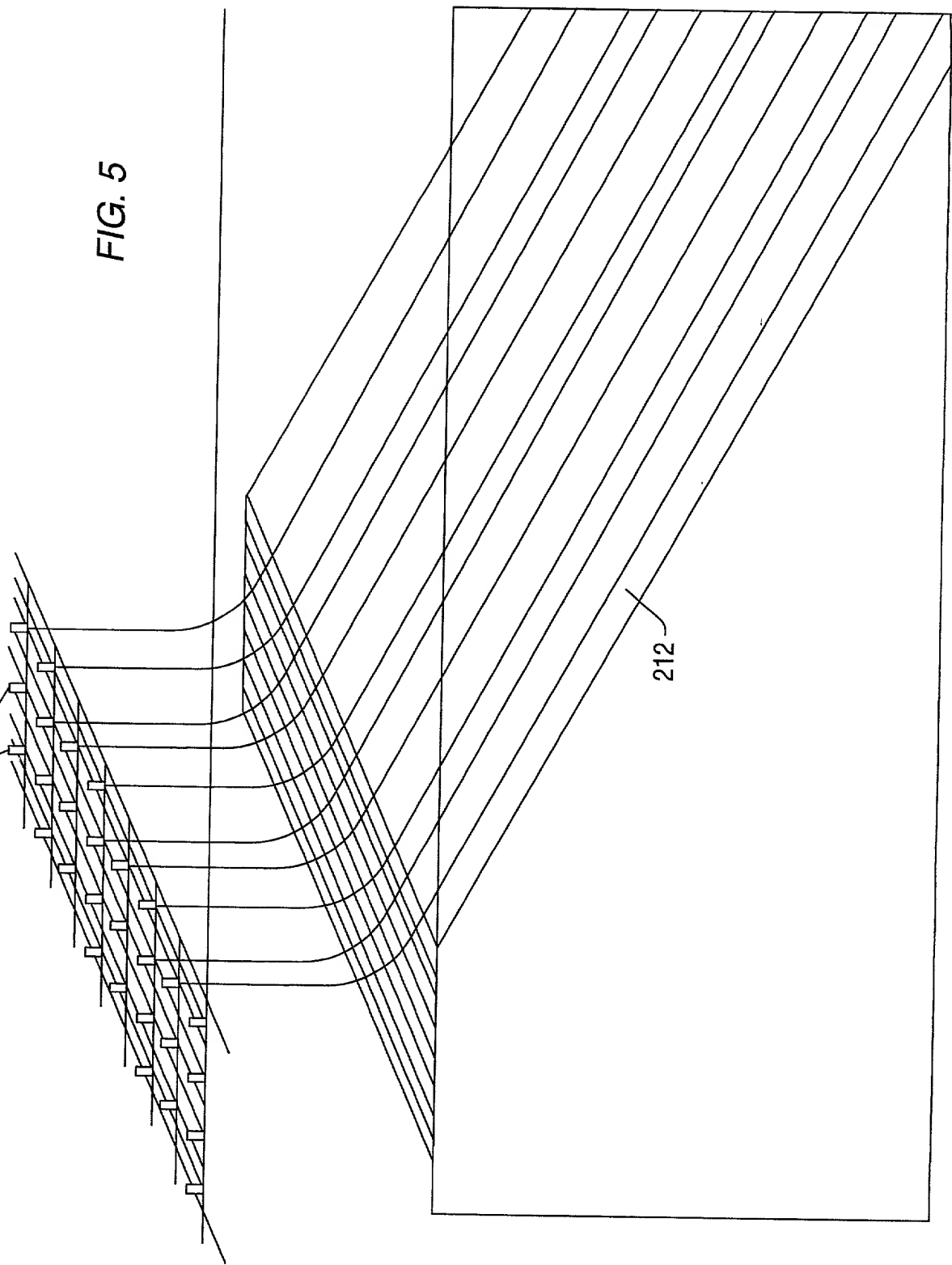
FIG. 4

FIG. 5 is a perspective view of a device 210 in a first state, and a device 212 in a second state. The device 210 is a flexible, elongated structure with a series of rectangular protrusions along its length. The device 212 is a rigid, elongated structure with a series of rectangular protrusions along its length. The device 210 is shown in a first state, and the device 212 is shown in a second state. The device 210 is a flexible, elongated structure with a series of rectangular protrusions along its length. The device 212 is a rigid, elongated structure with a series of rectangular protrusions along its length. The device 210 is shown in a first state, and the device 212 is shown in a second state.

210

FIG. 5

212



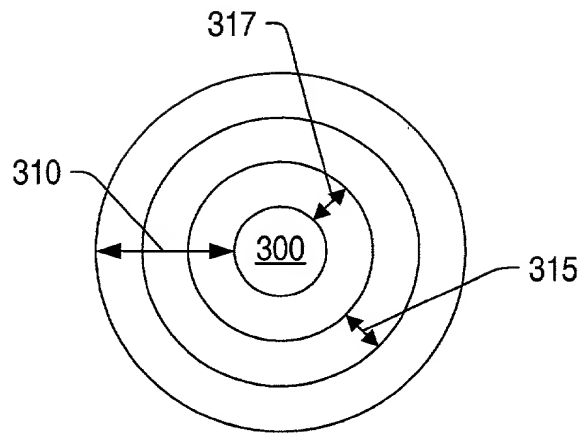


FIG. 6

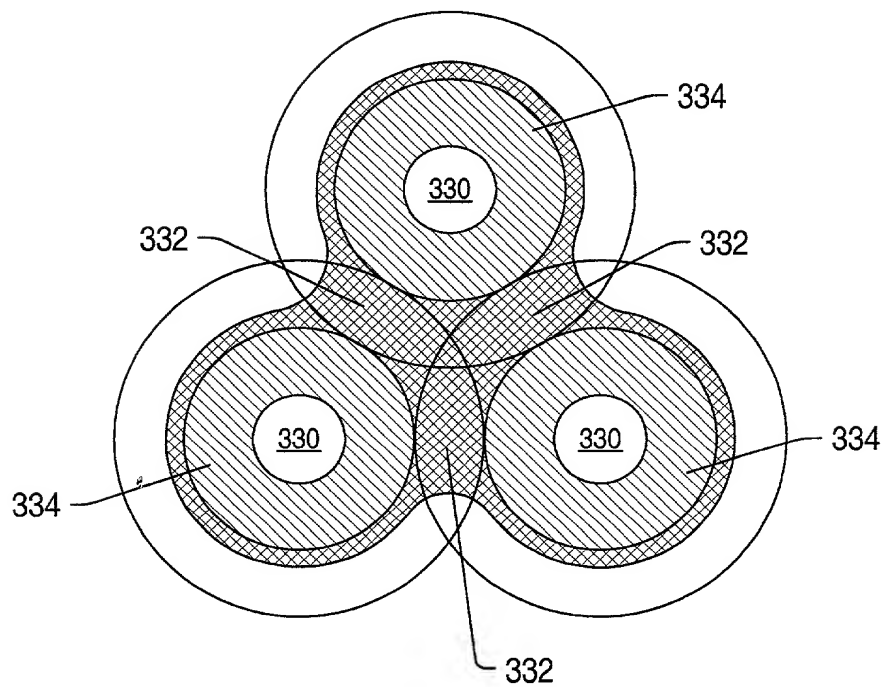


FIG. 7

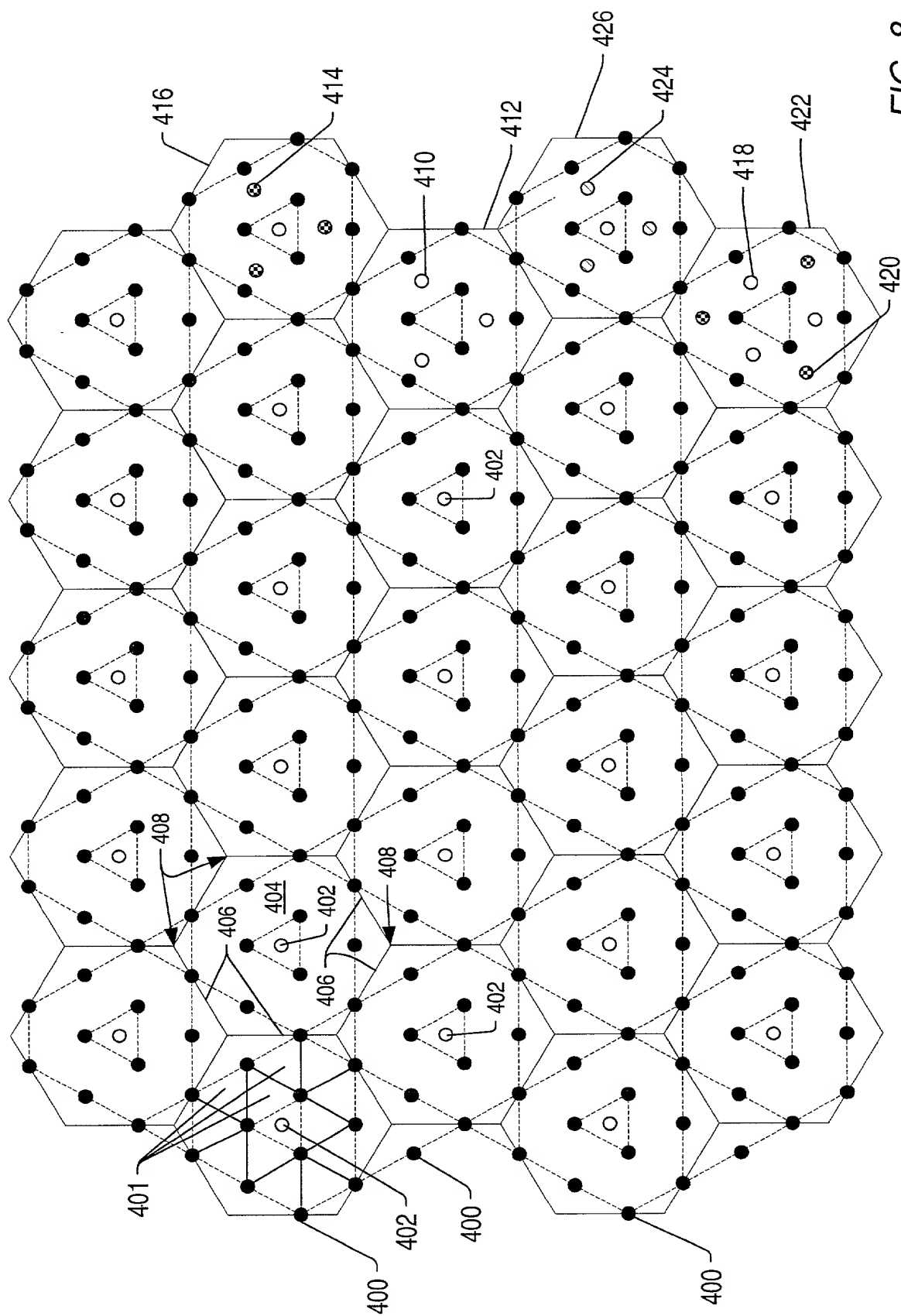


FIG. 8

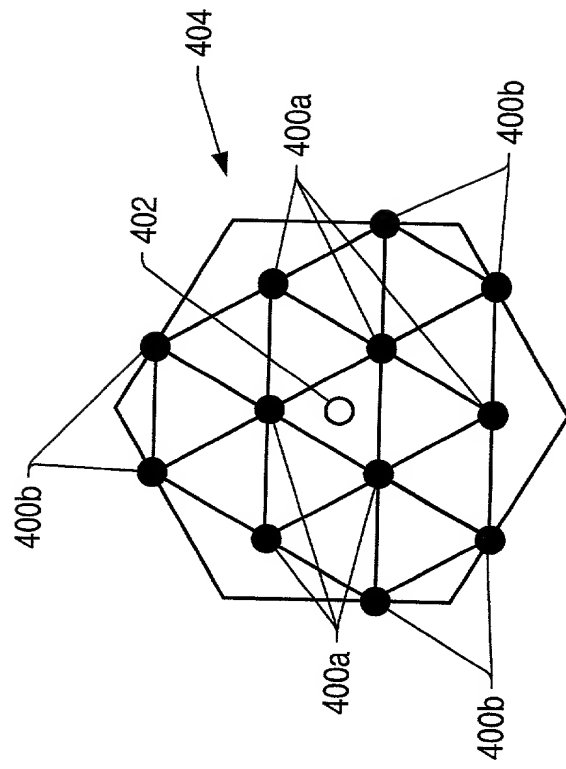


FIG. 9

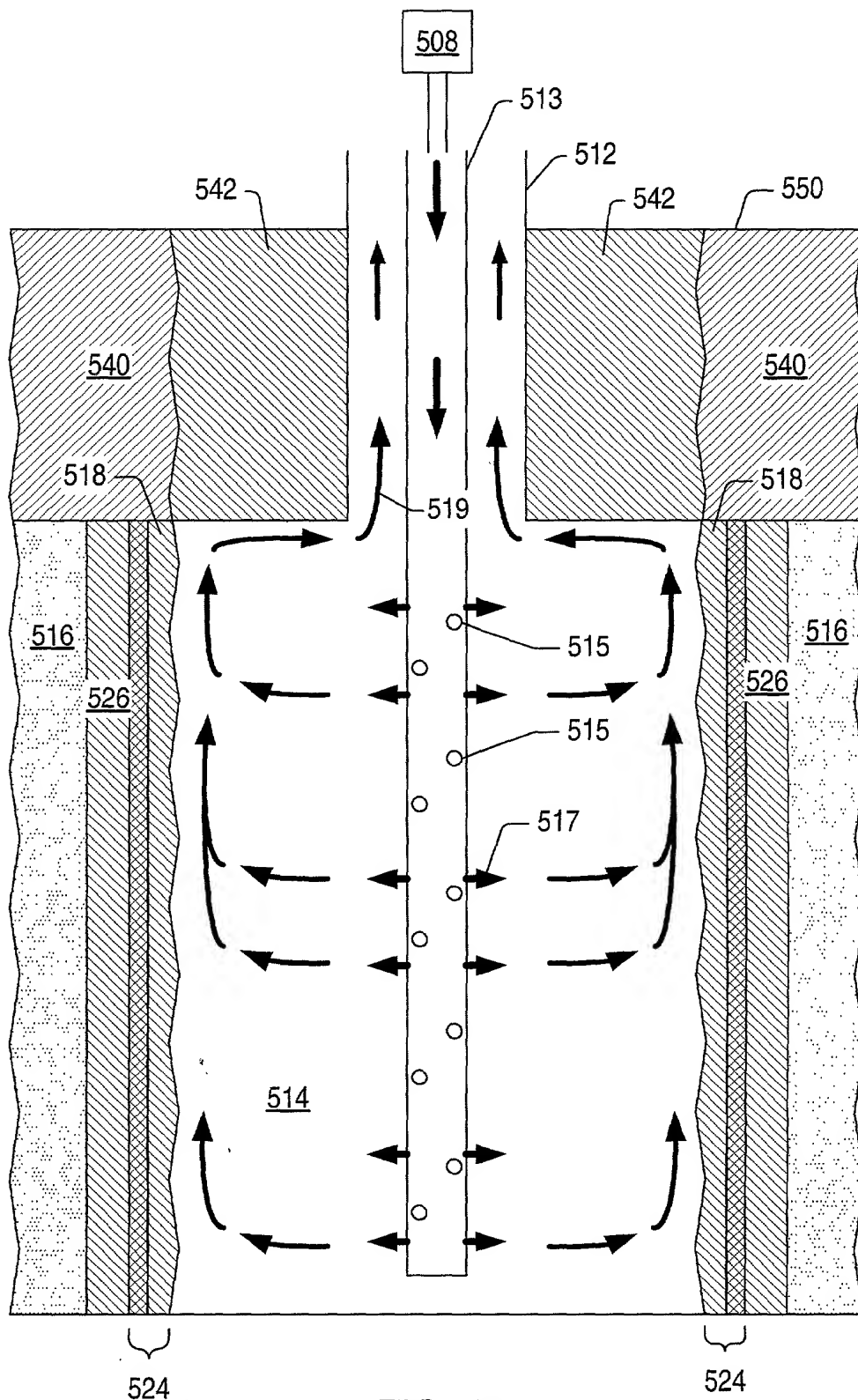


FIG. 10

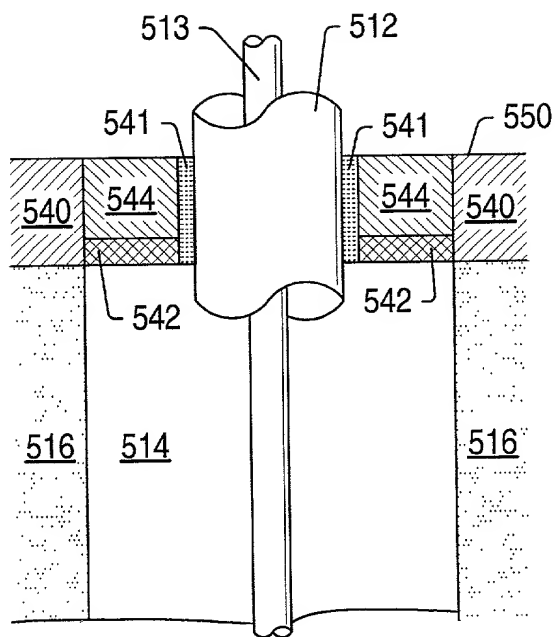


FIG. 11

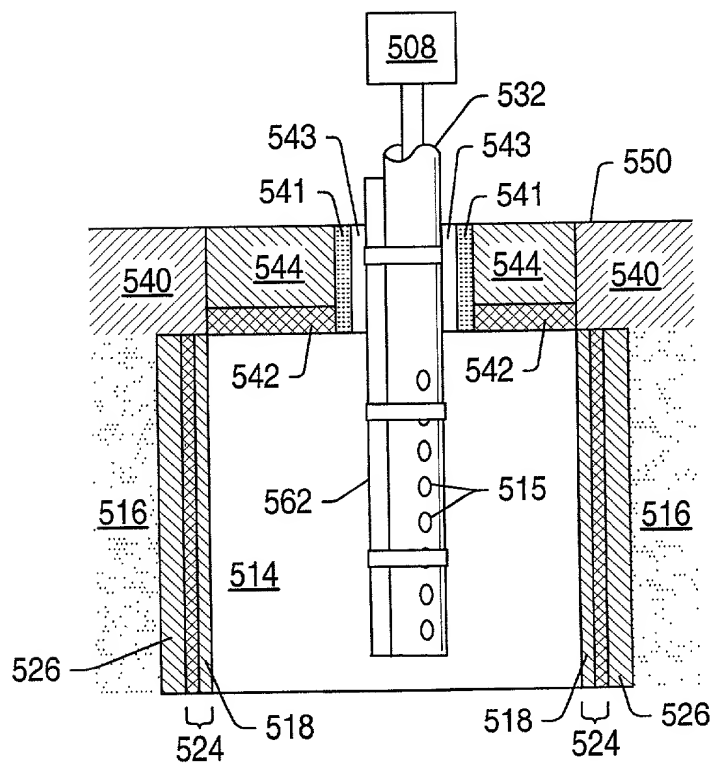


FIG. 12

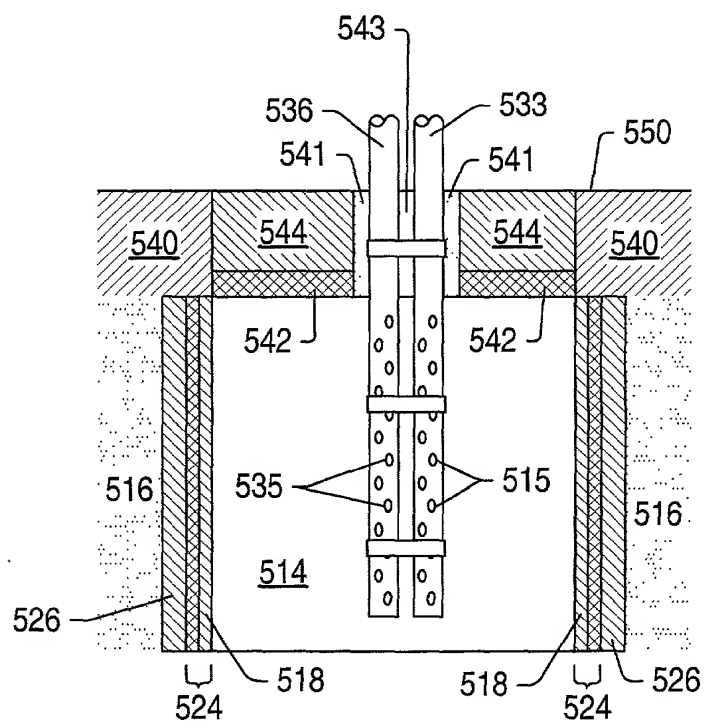


Fig. 13

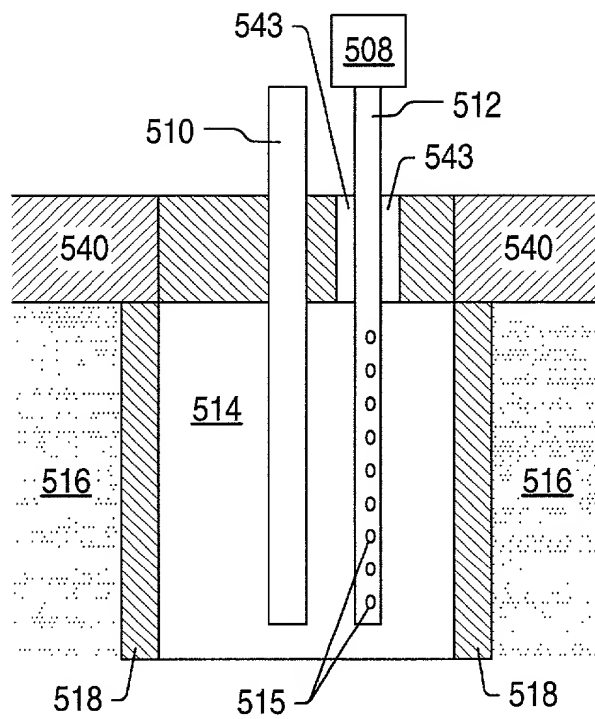


FIG. 14

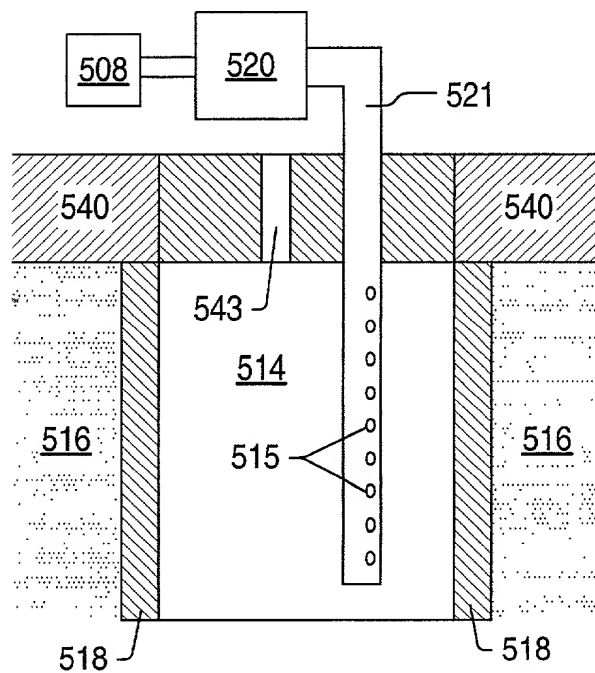


FIG. 15

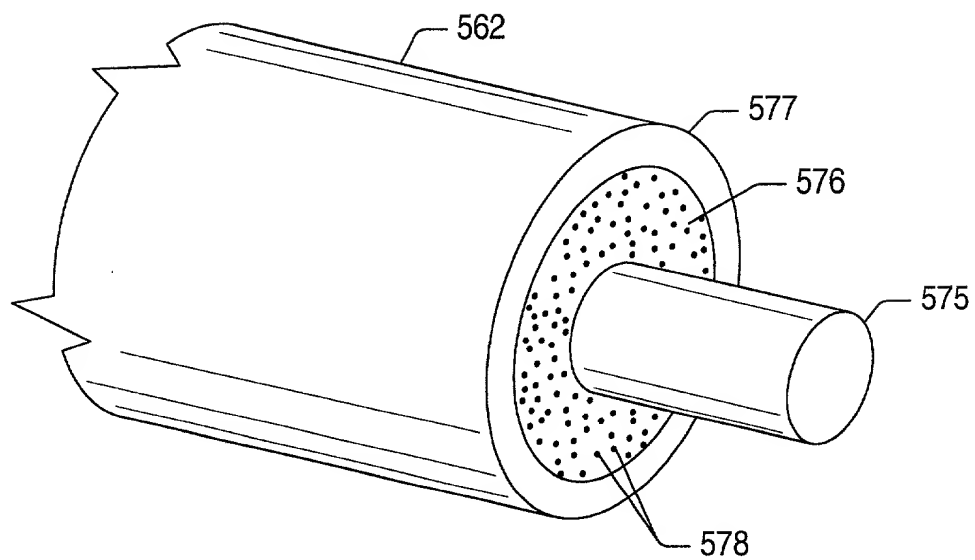


FIG. 16

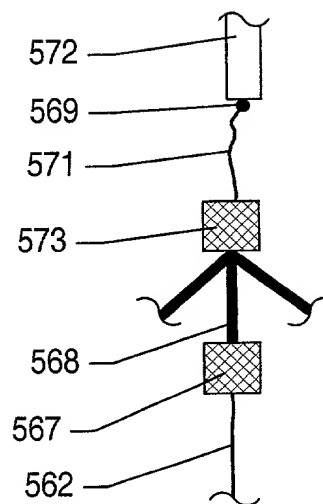
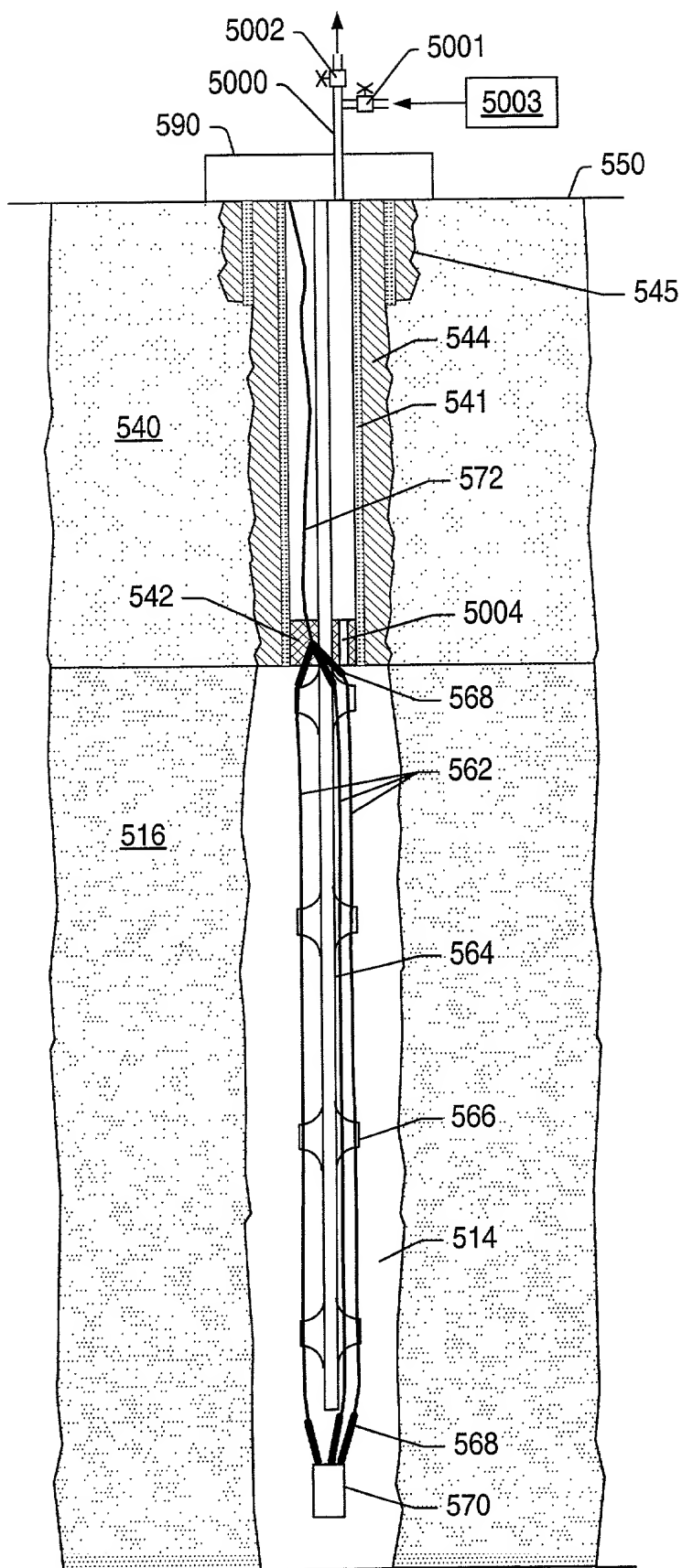


FIG. 17A

FIG. 17

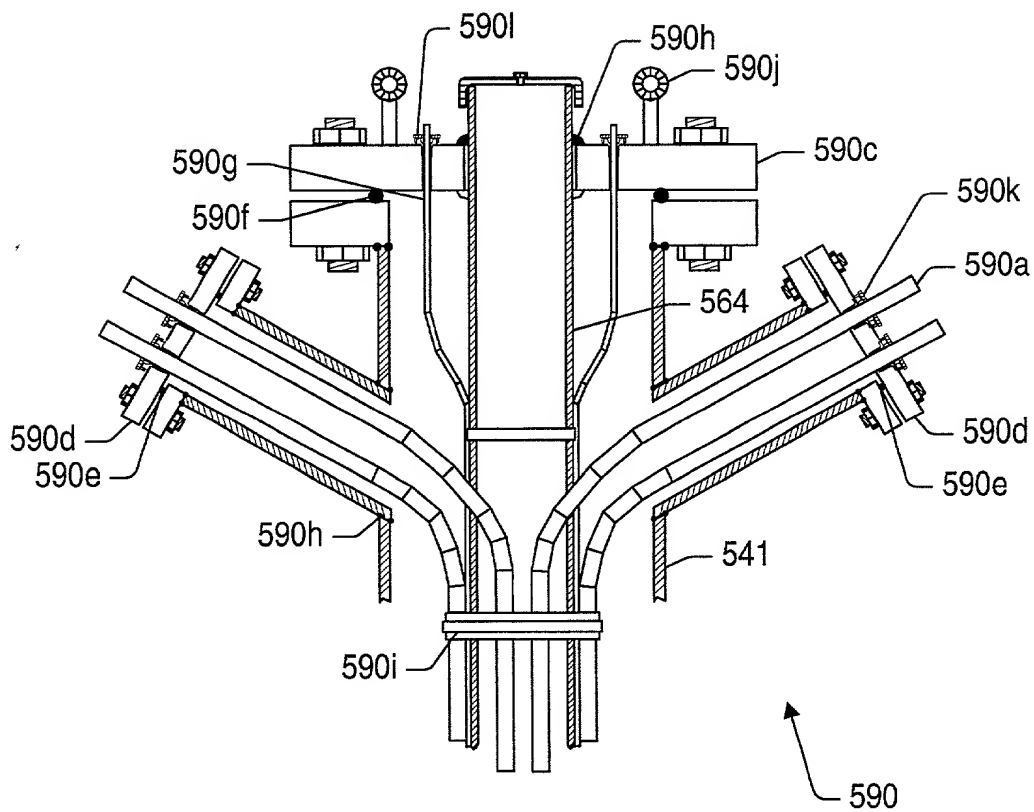


FIG. 18

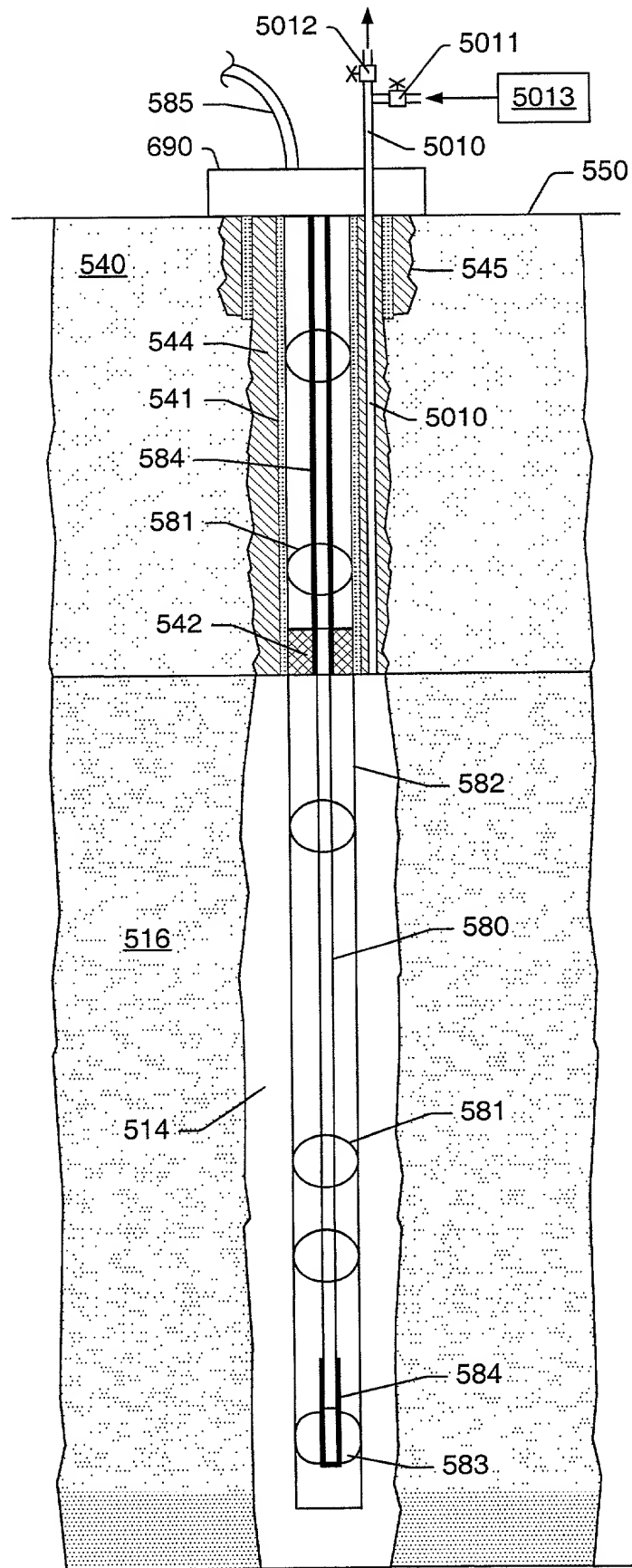


FIG. 19

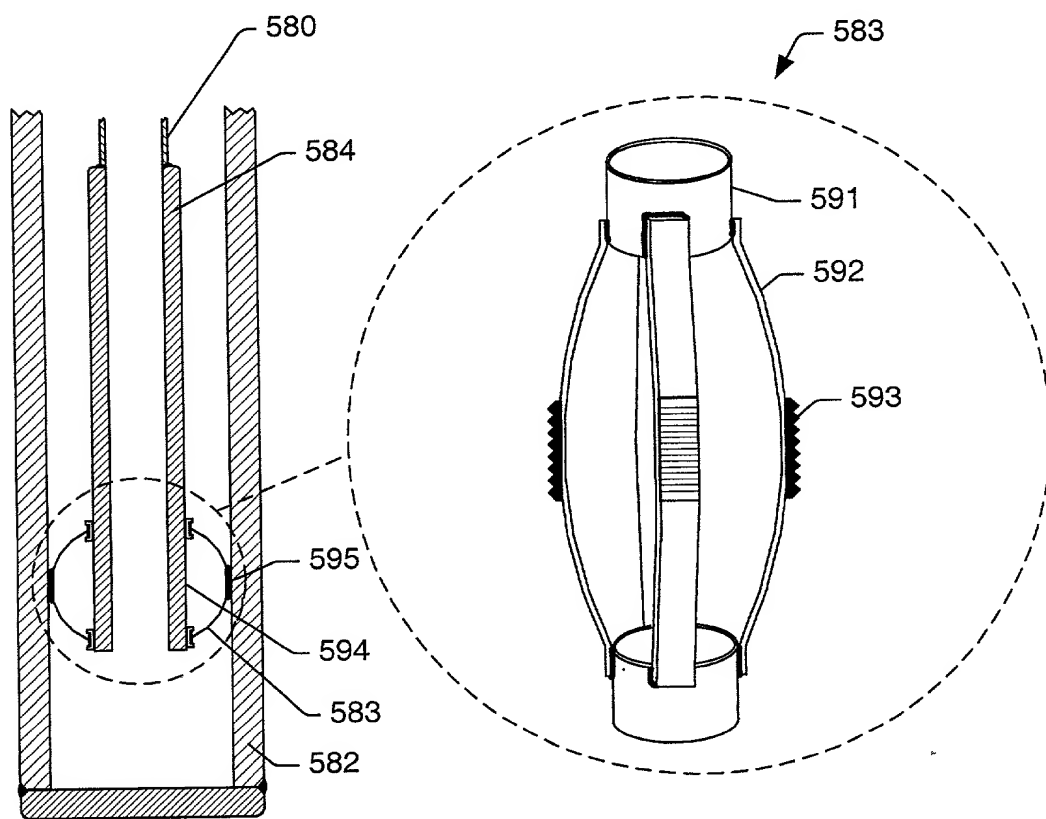


FIG. 20

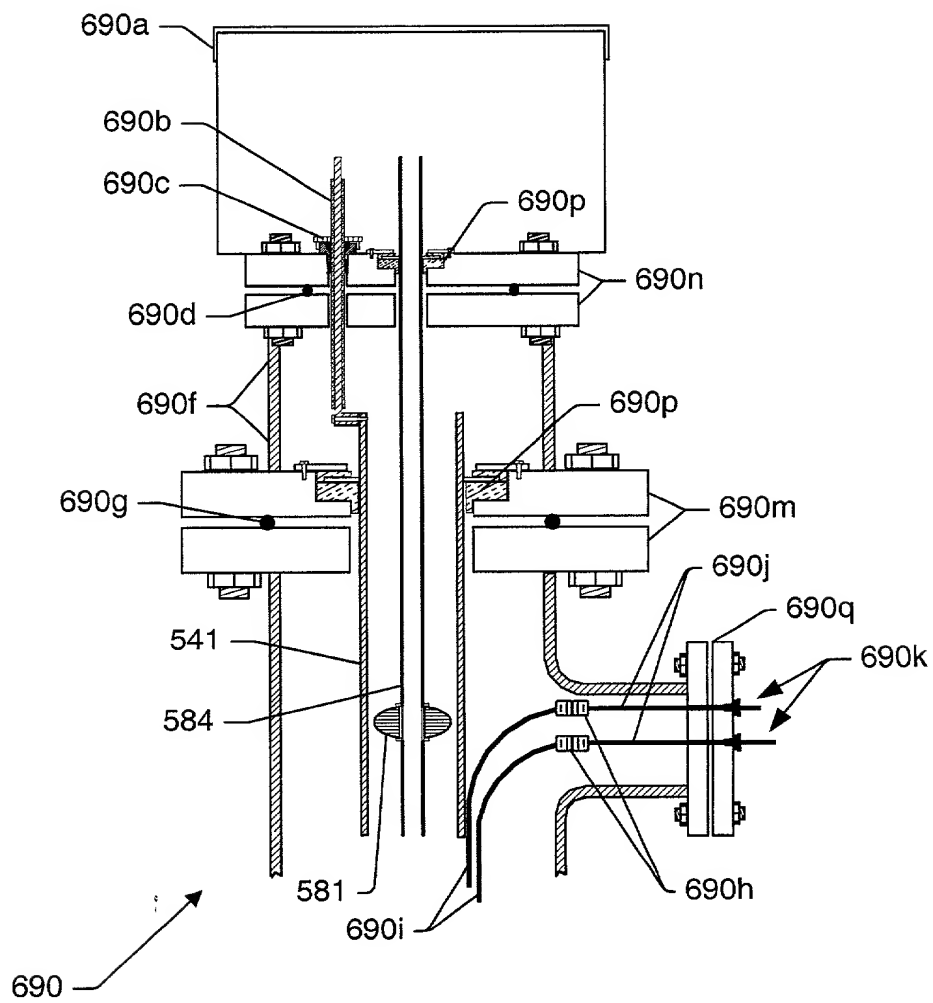


FIG. 21

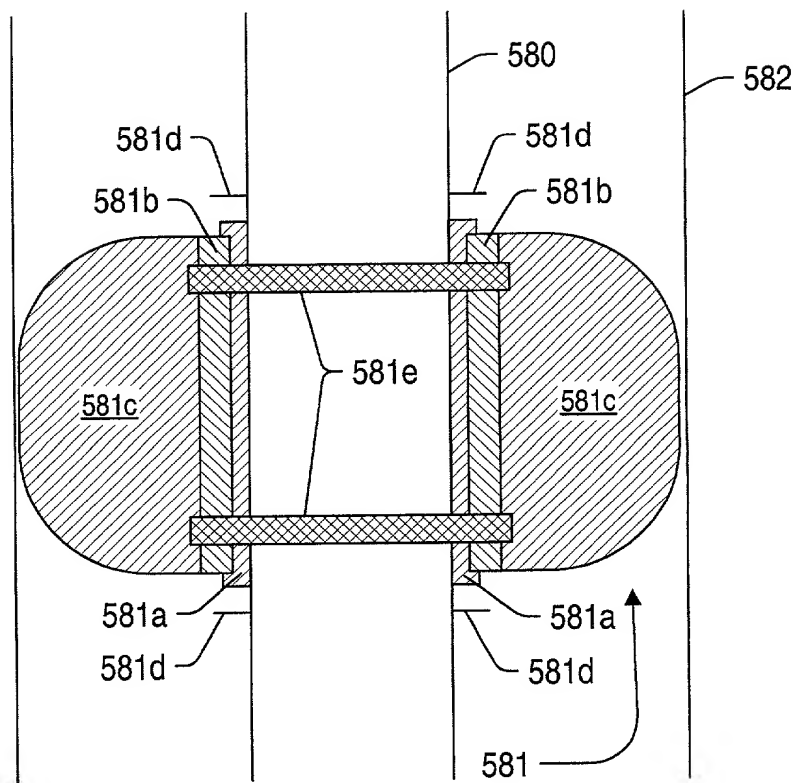


FIG. 22

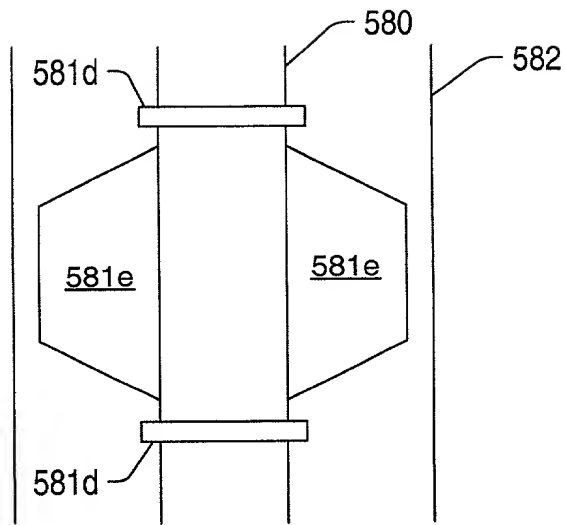


FIG. 23a

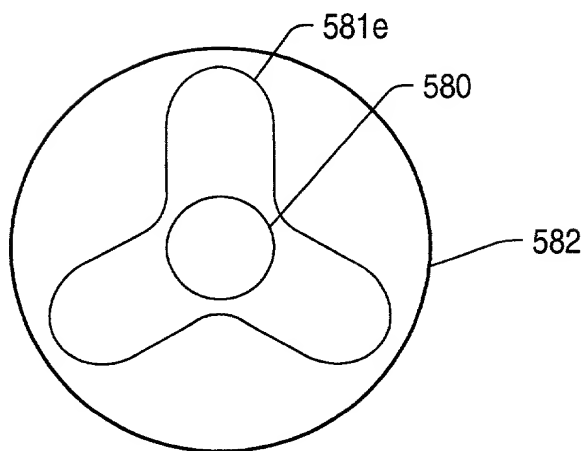


FIG. 23b

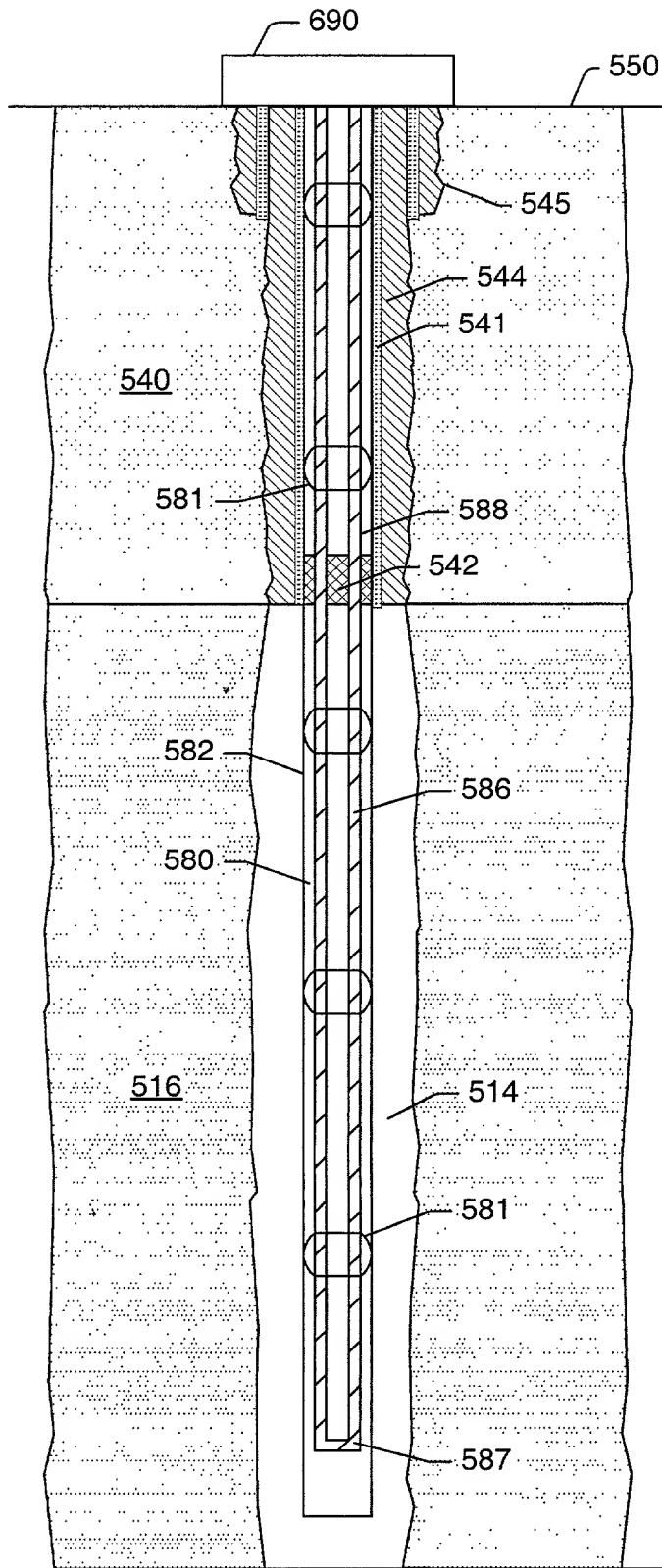


Fig. 24

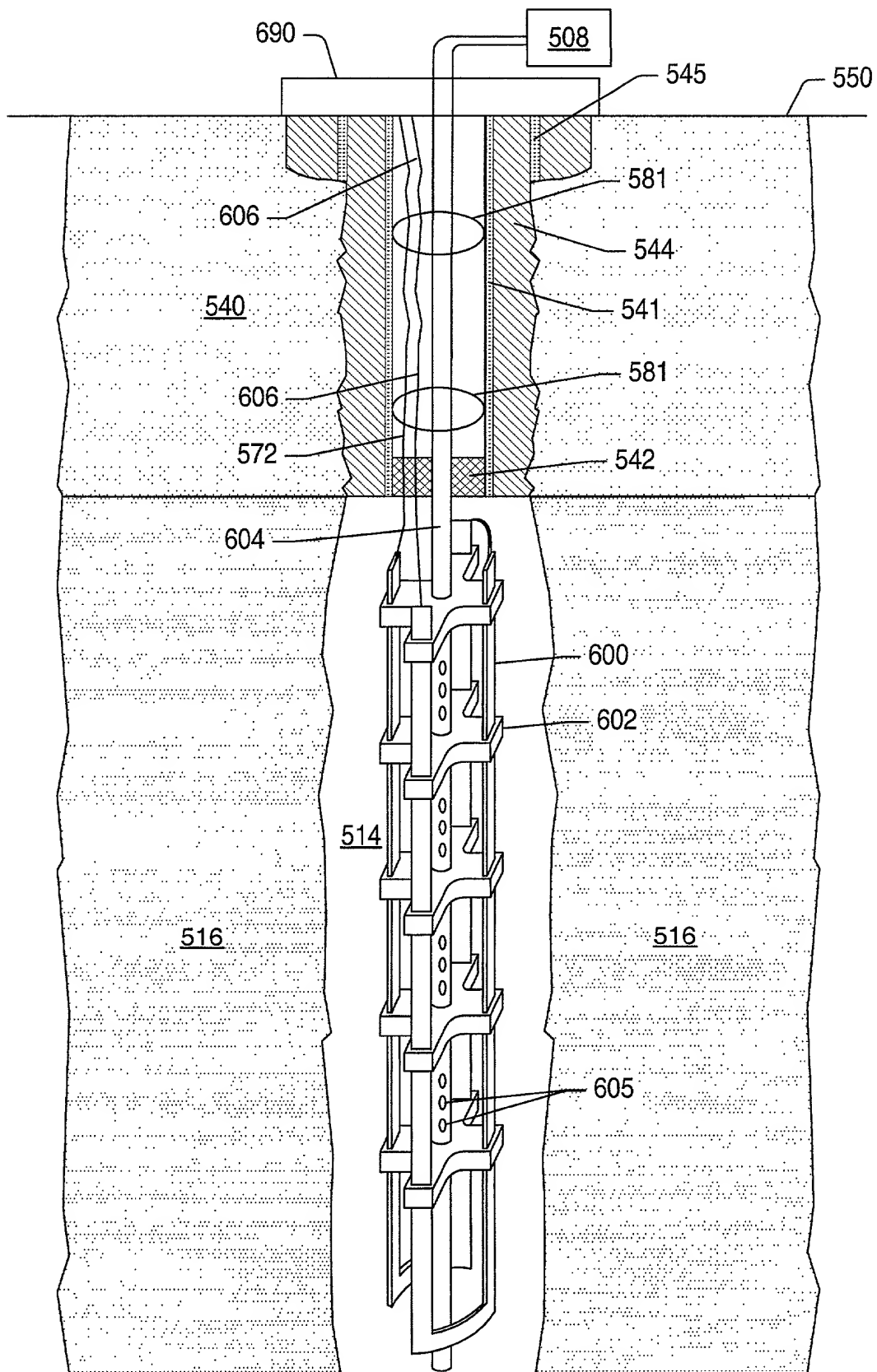


FIG. 25

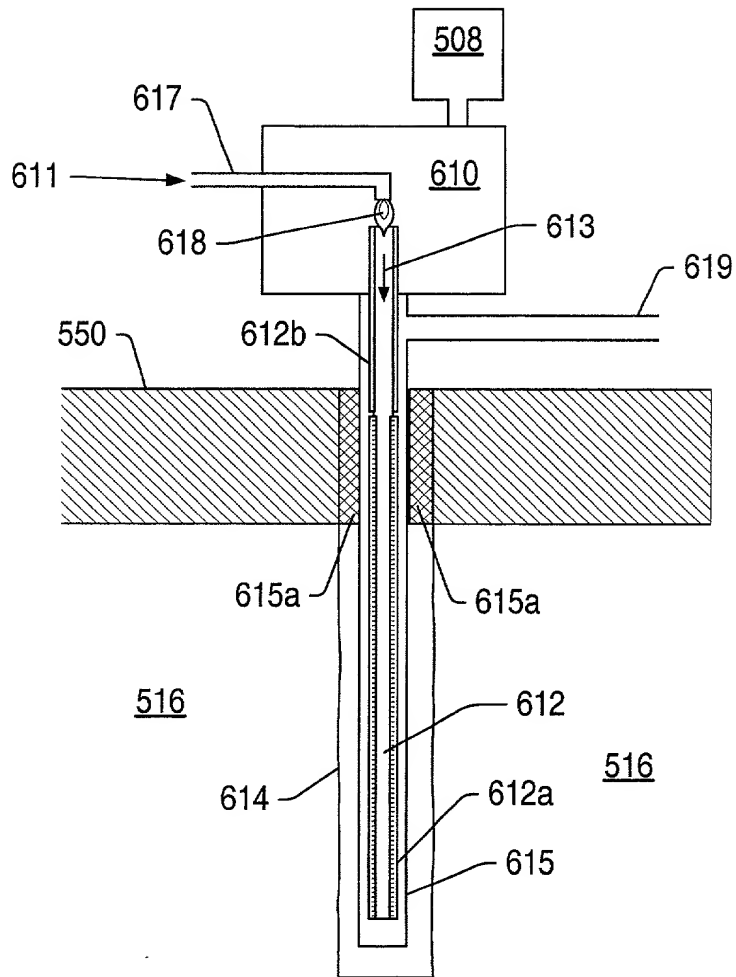


FIG. 26

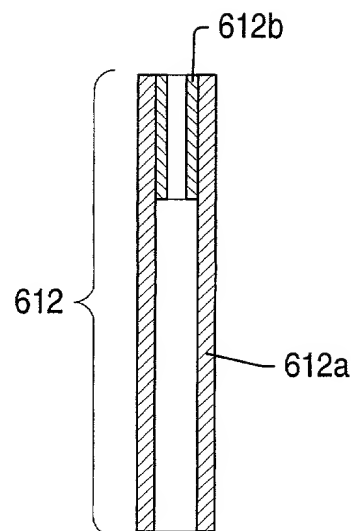


FIG. 27

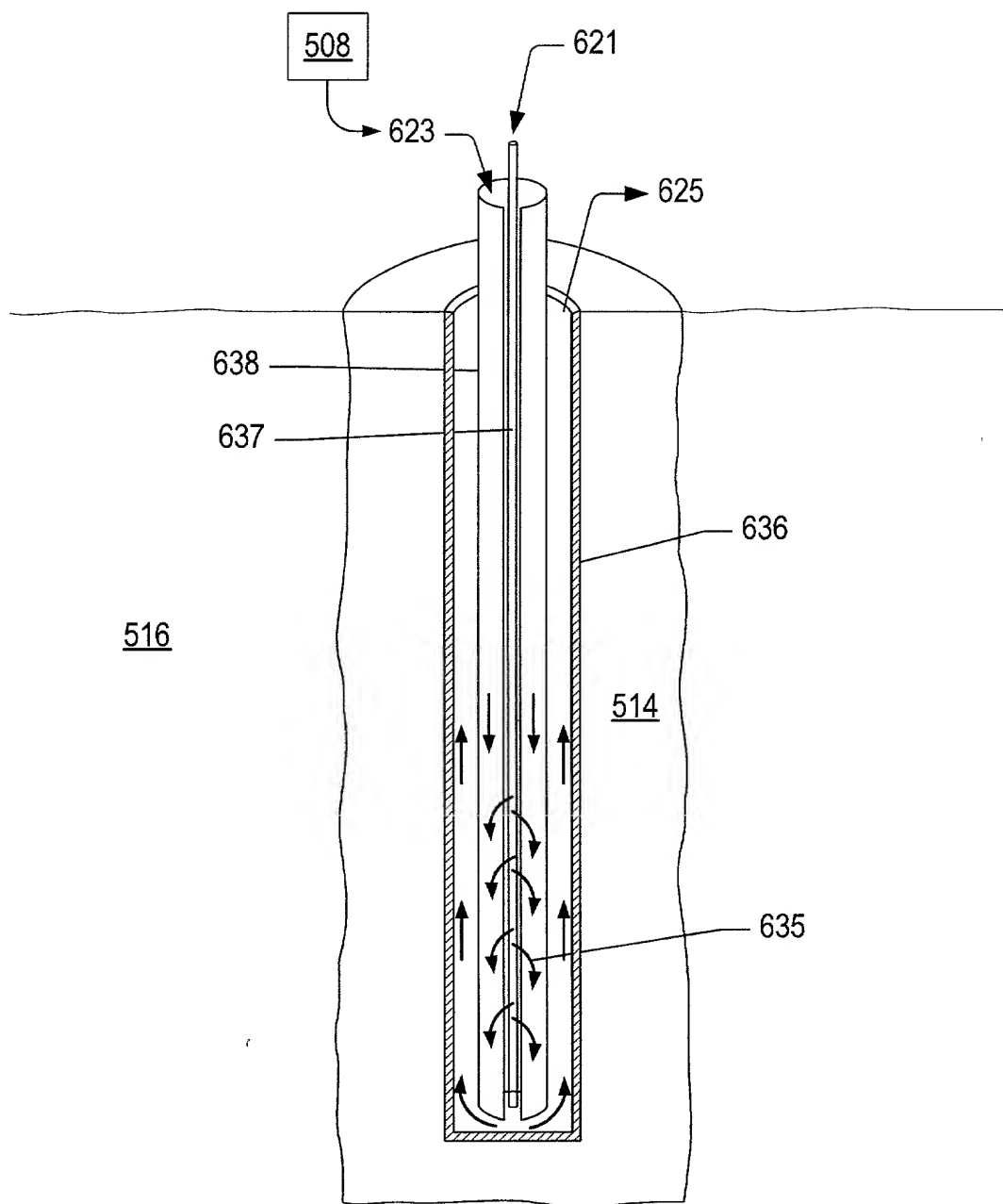


FIG. 28

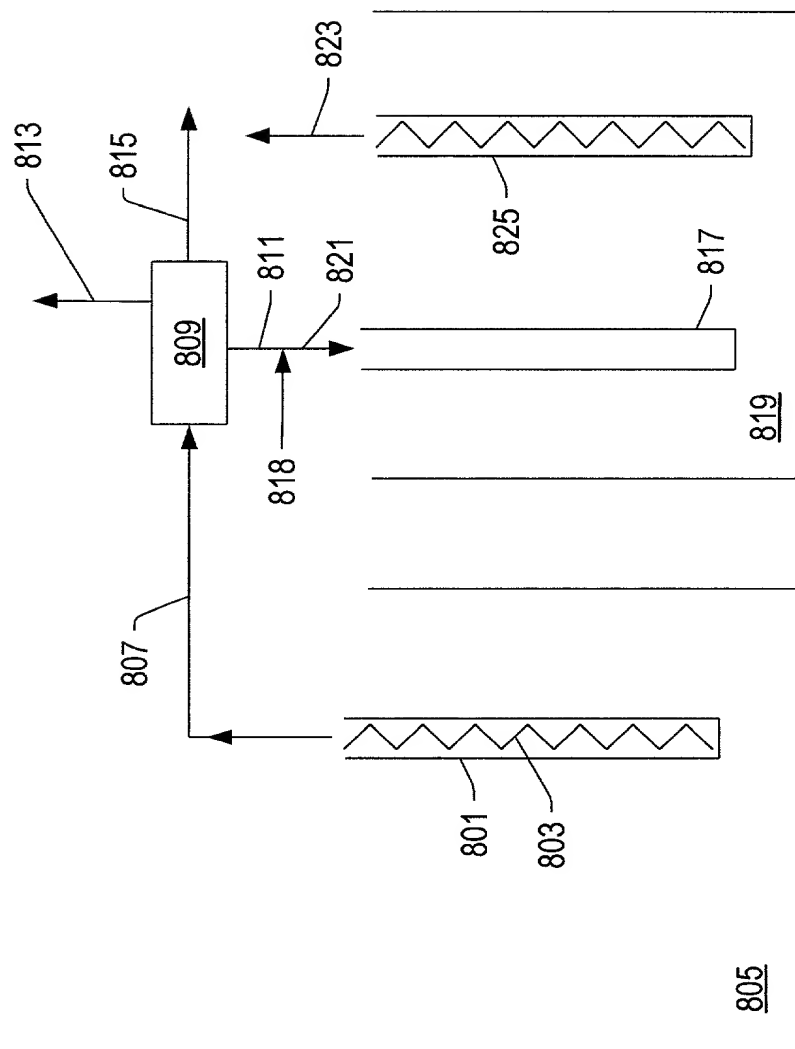


FIG. 29

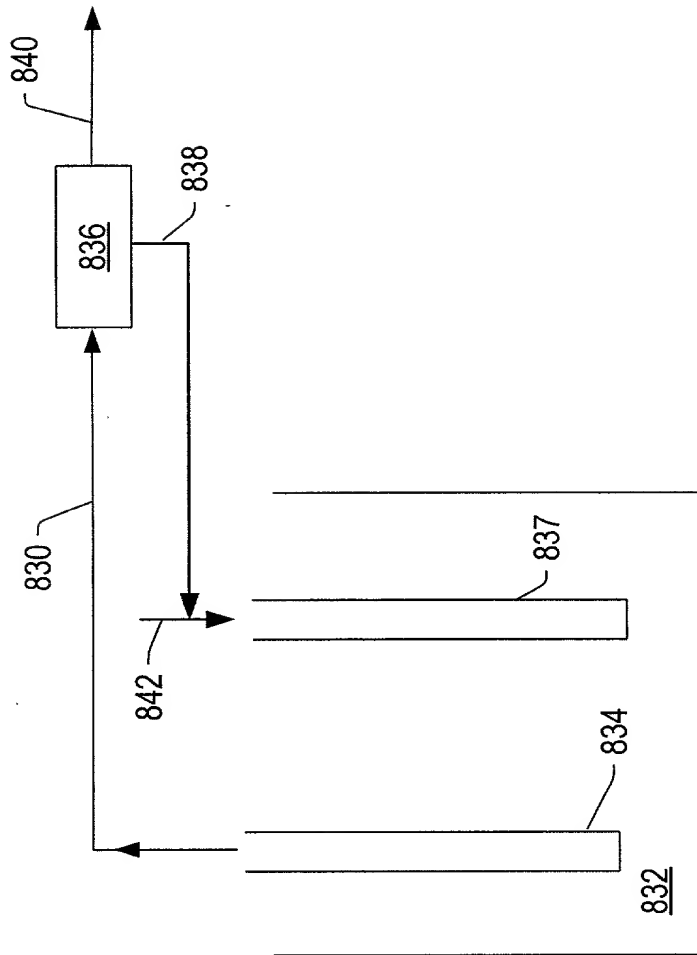


FIG. 30

FIG. 31

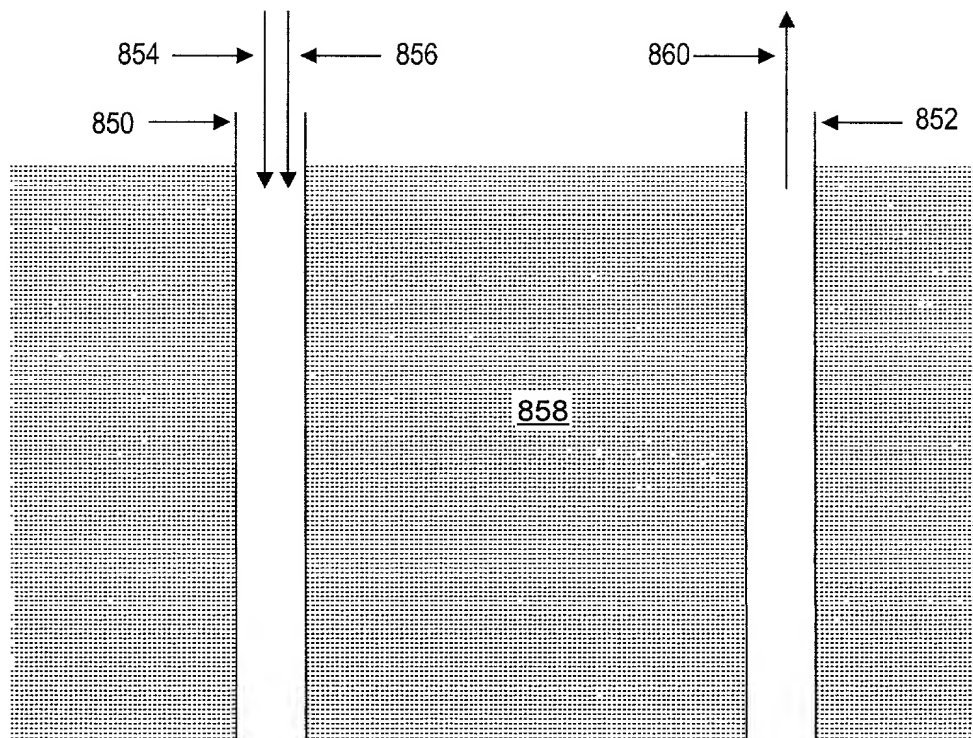


FIG. 31

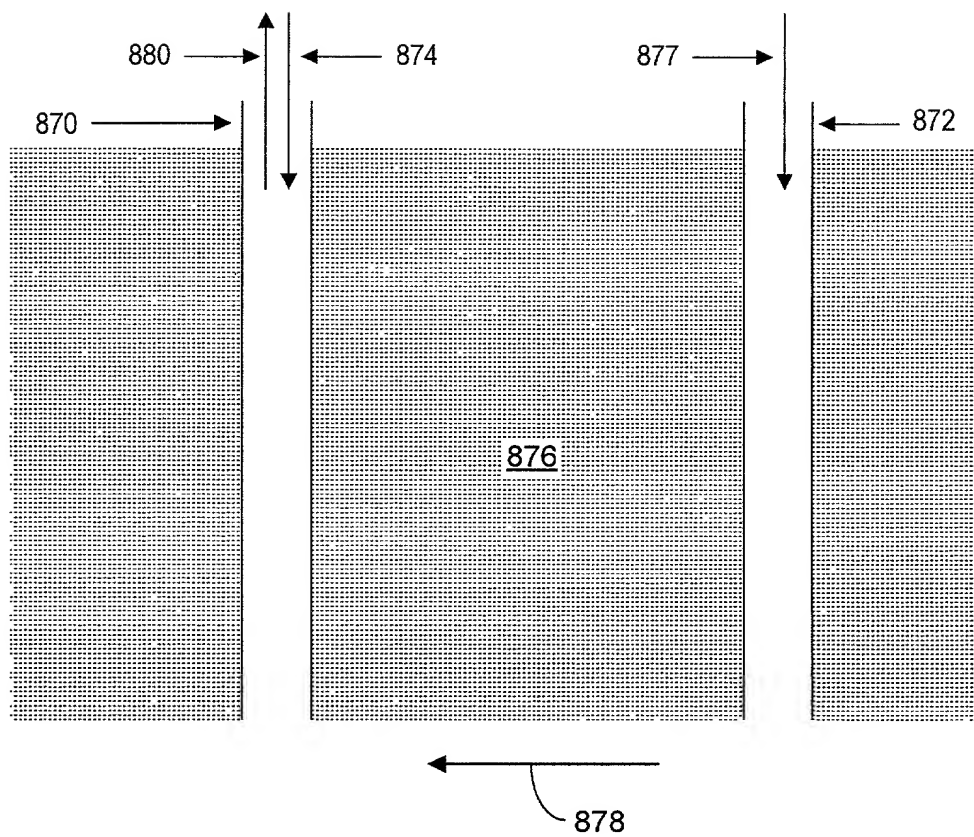


FIG. 32

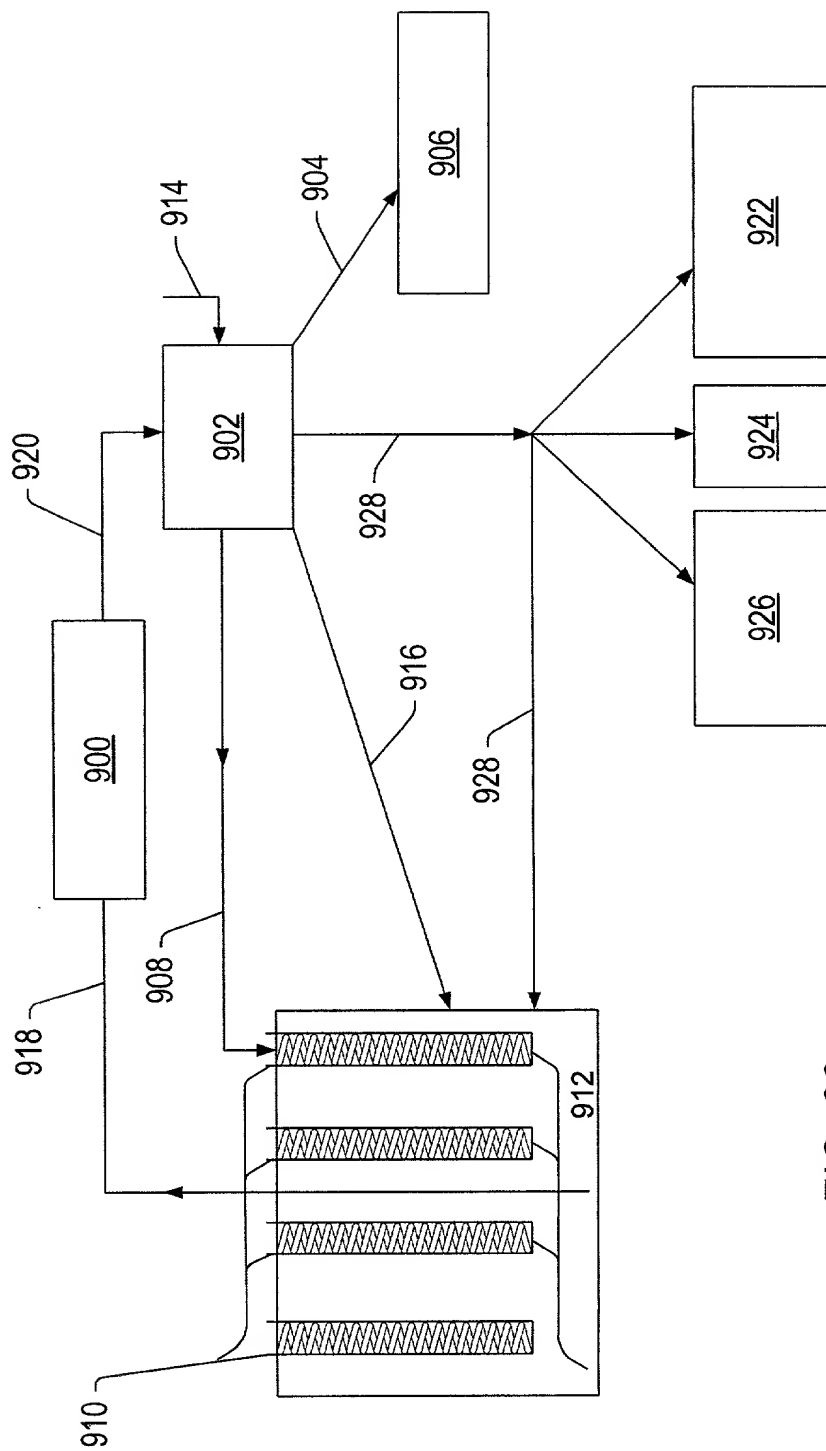


FIG. 33

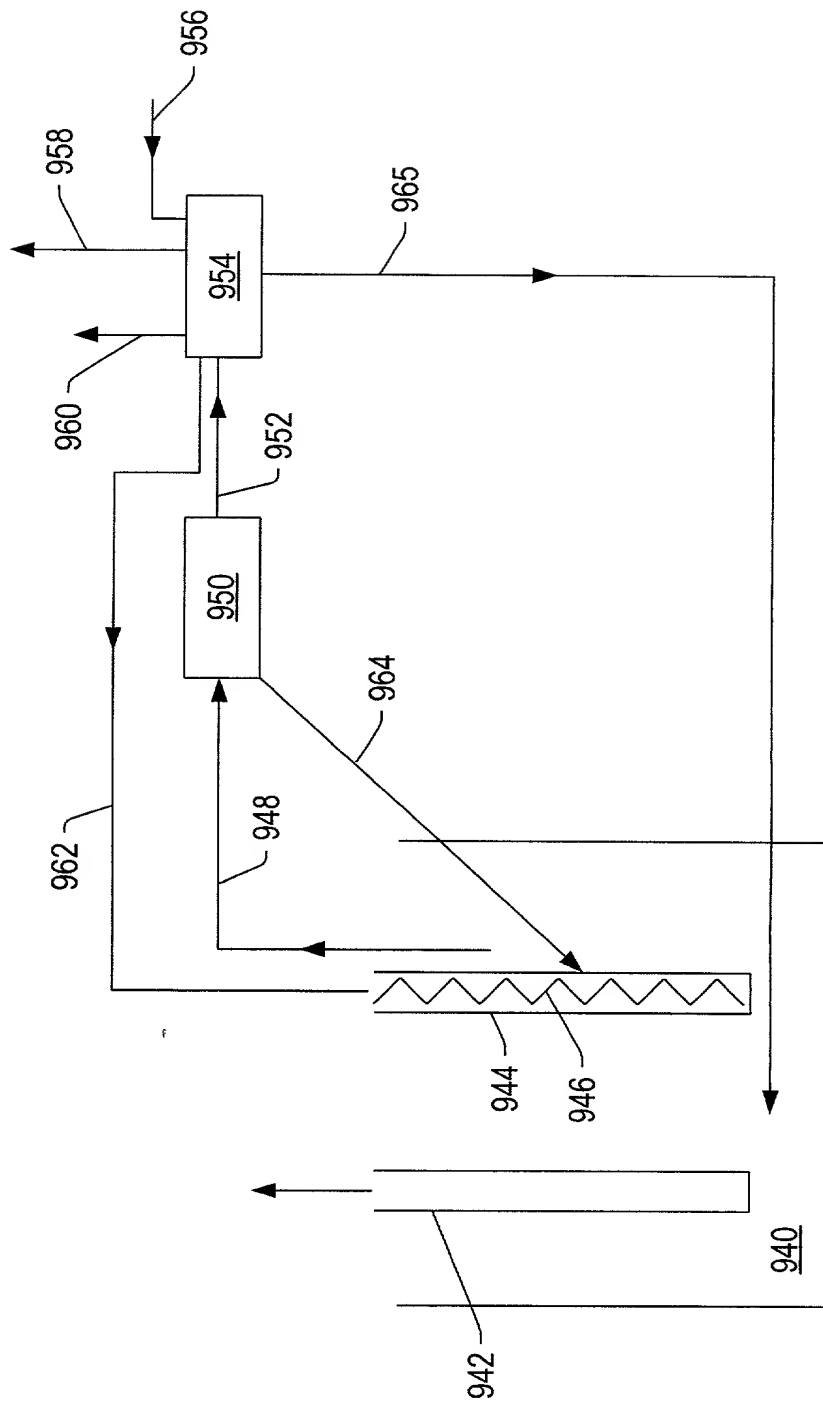


FIG. 34

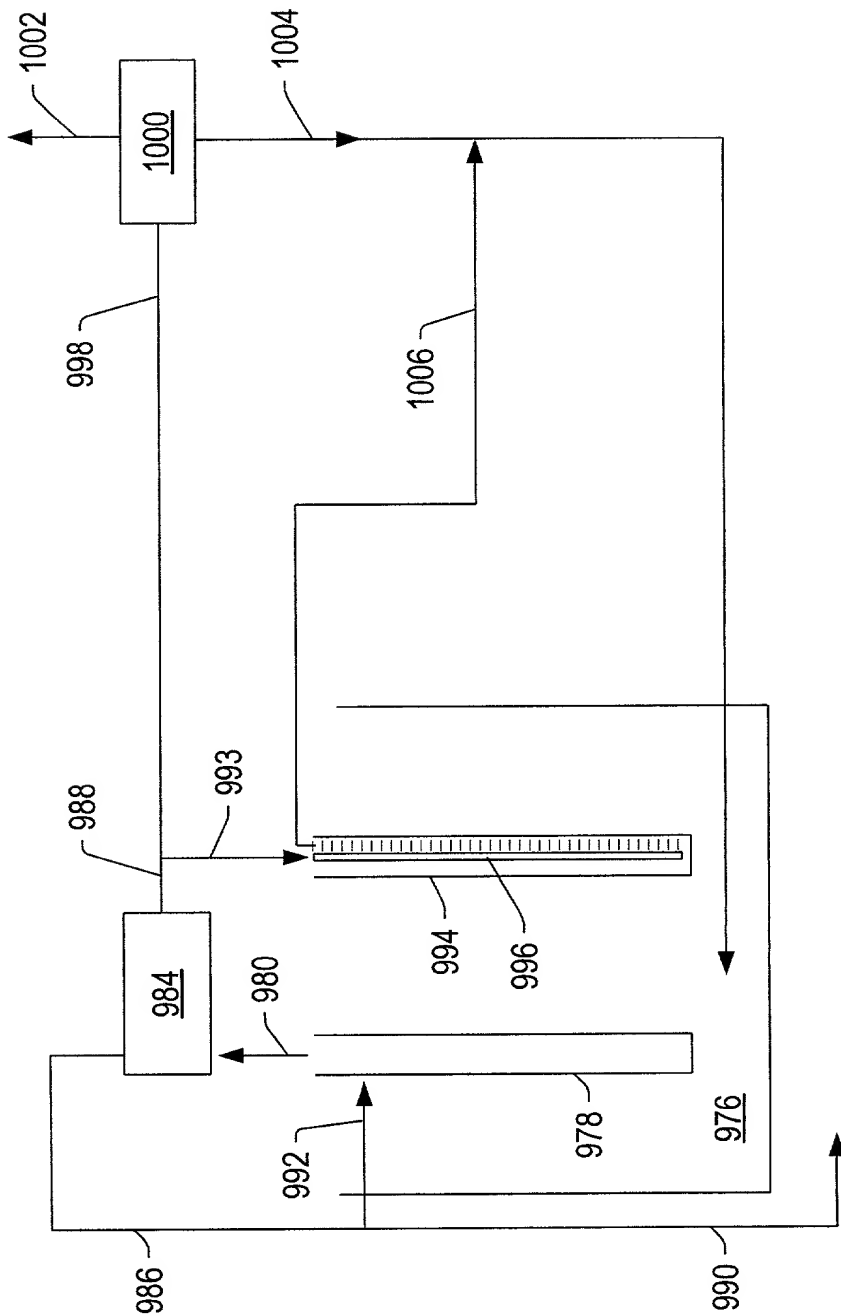


FIG. 35

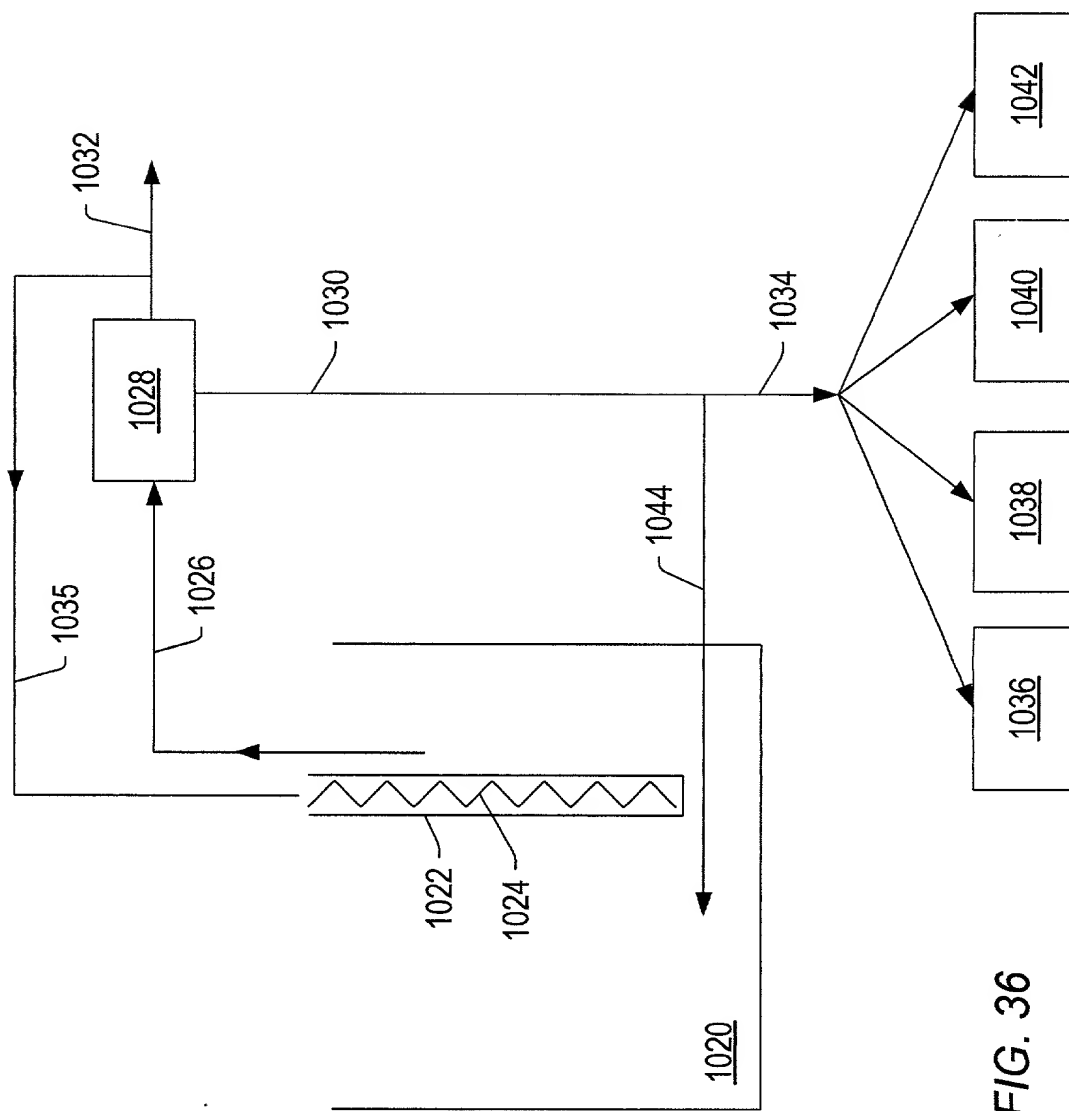


FIG. 36

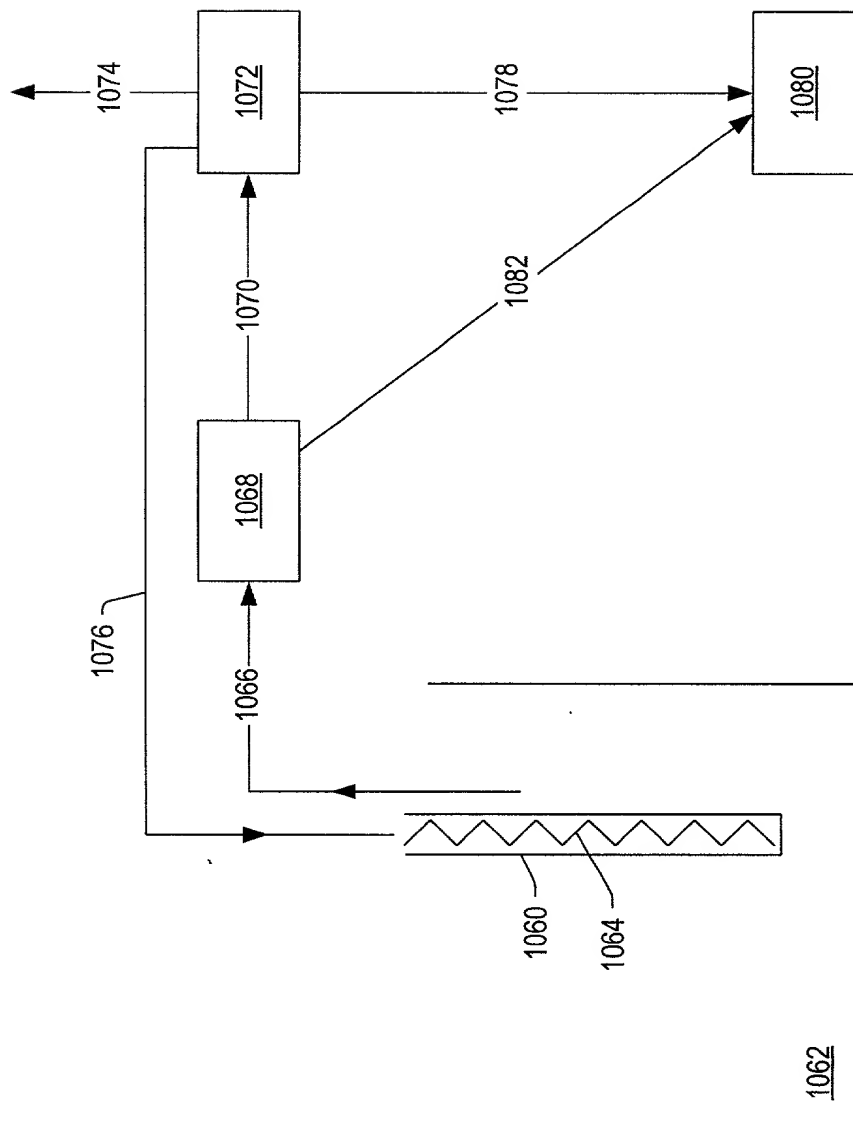


FIG. 37

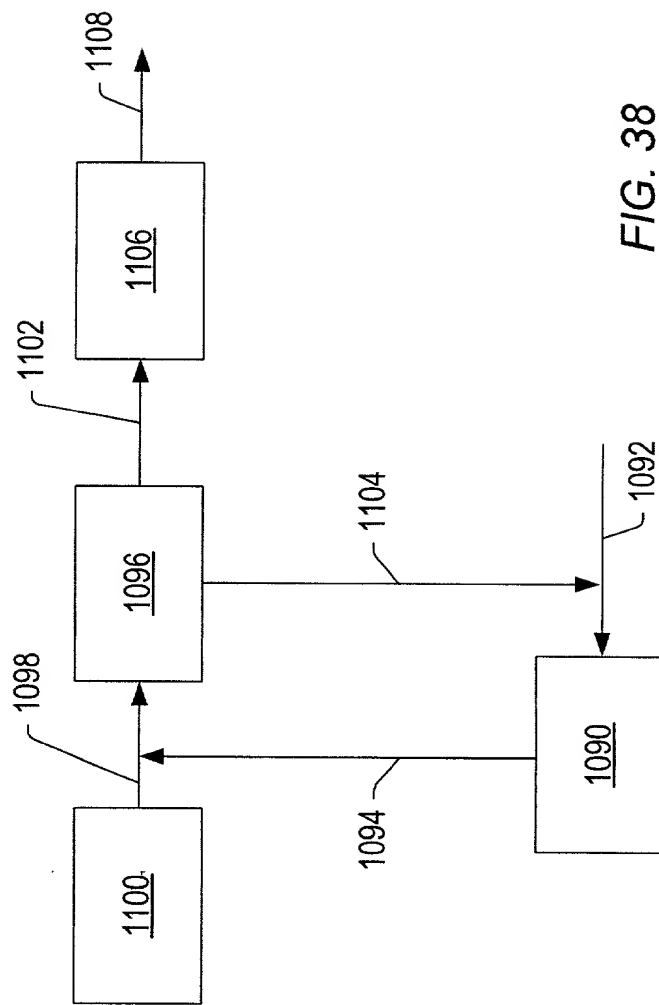


FIG. 38

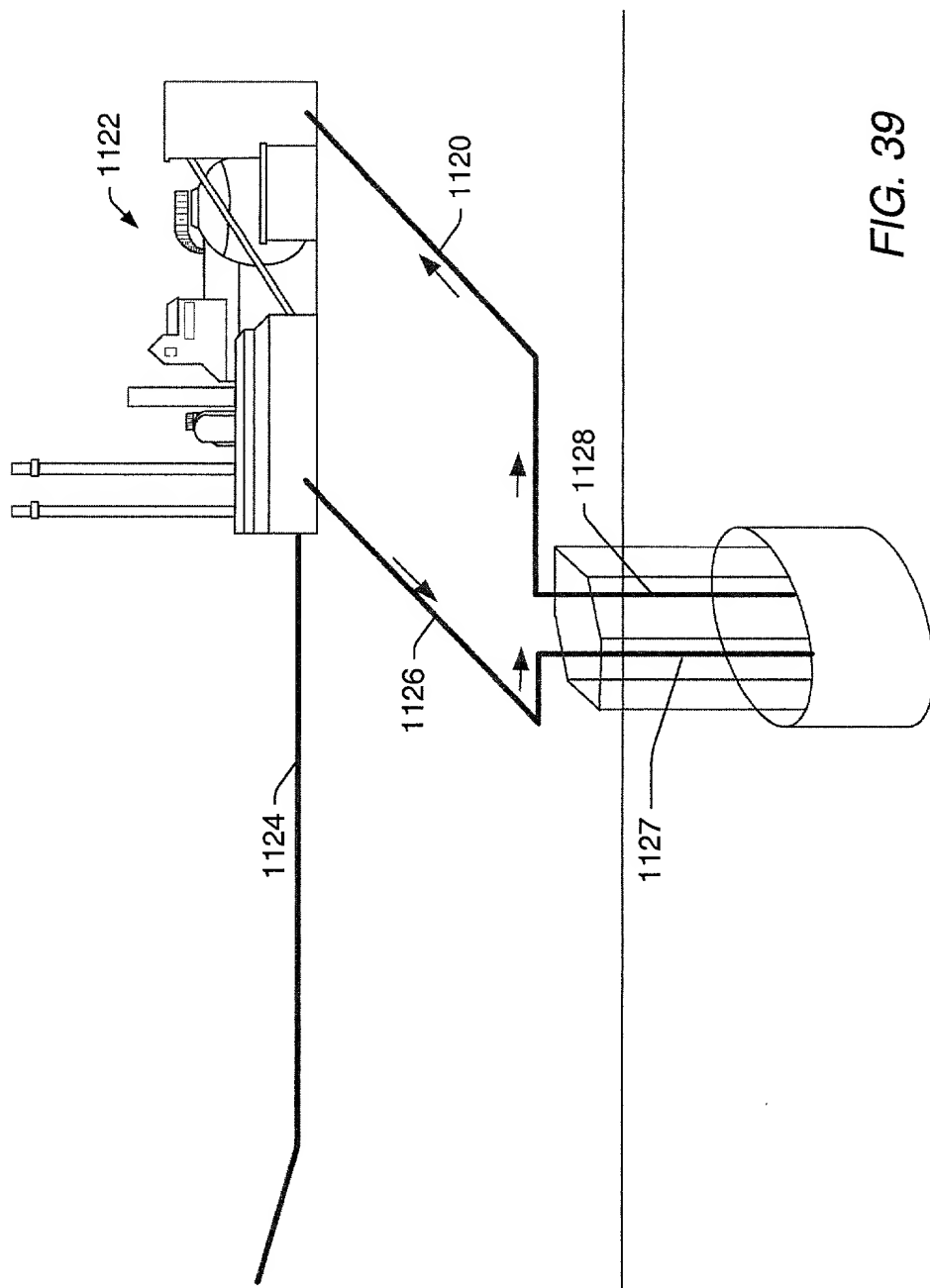


FIG. 39

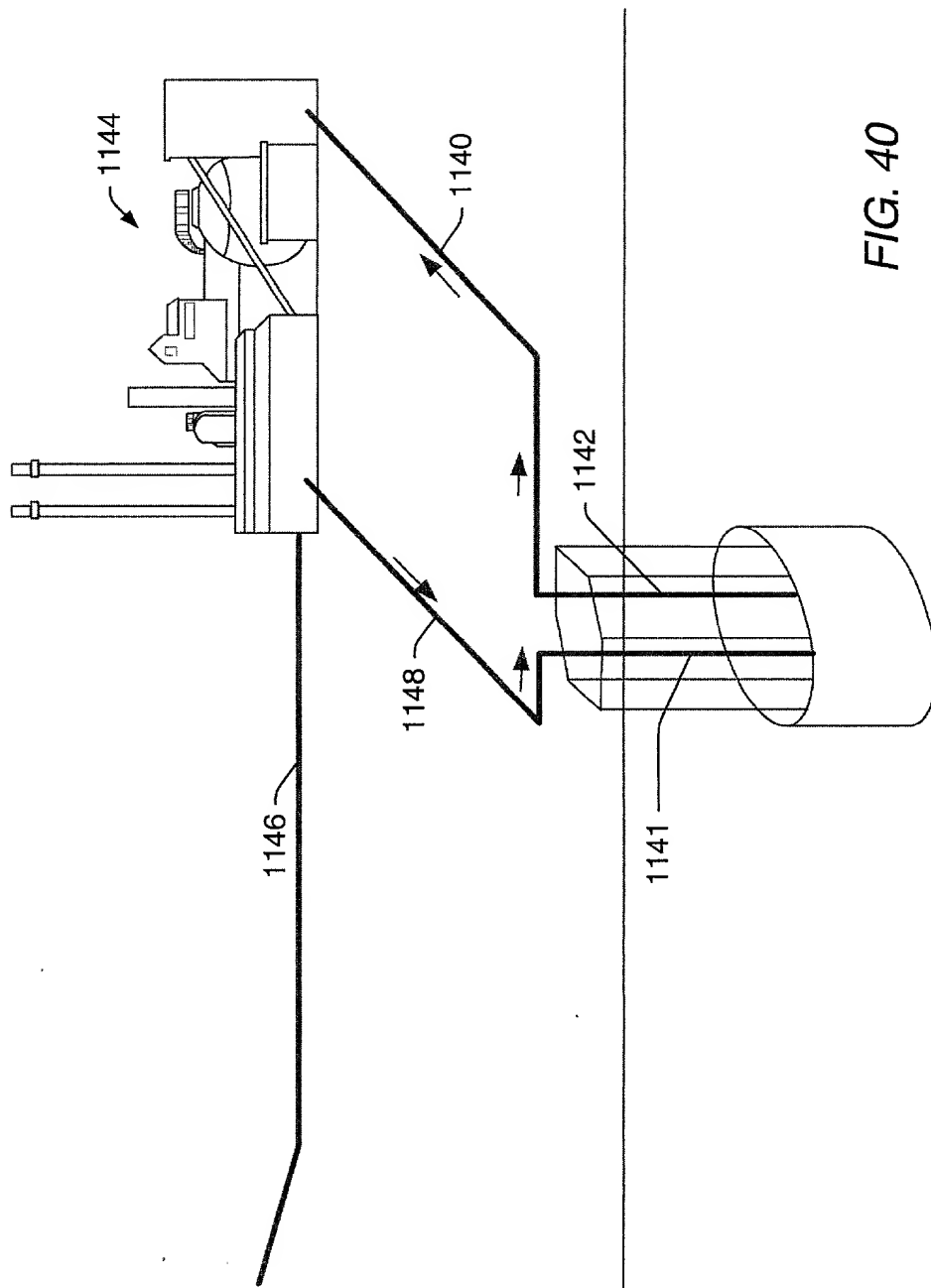


FIG. 40

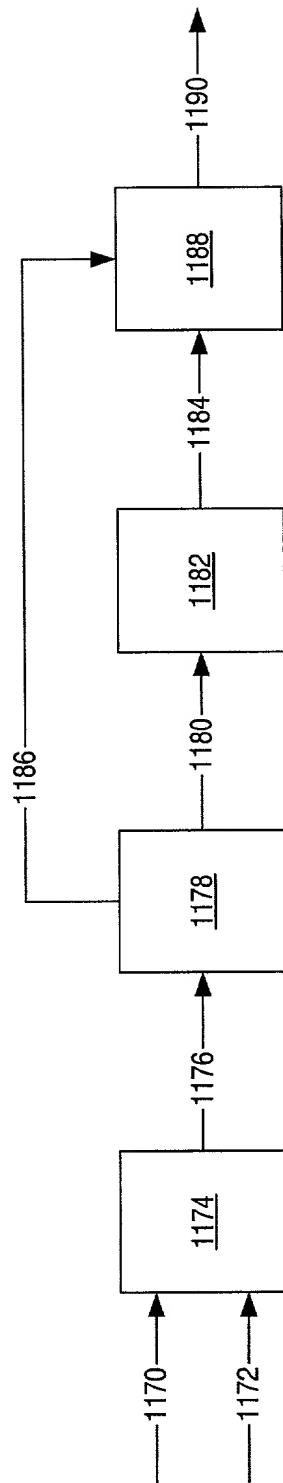


FIG. 41

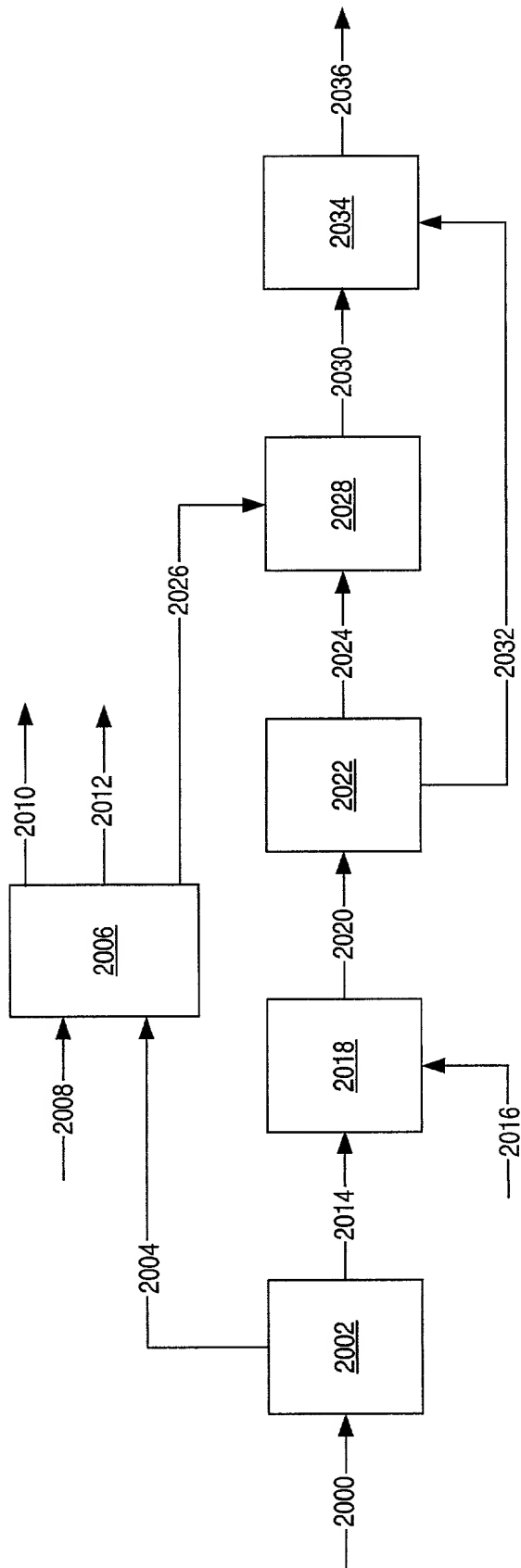


FIG. 42

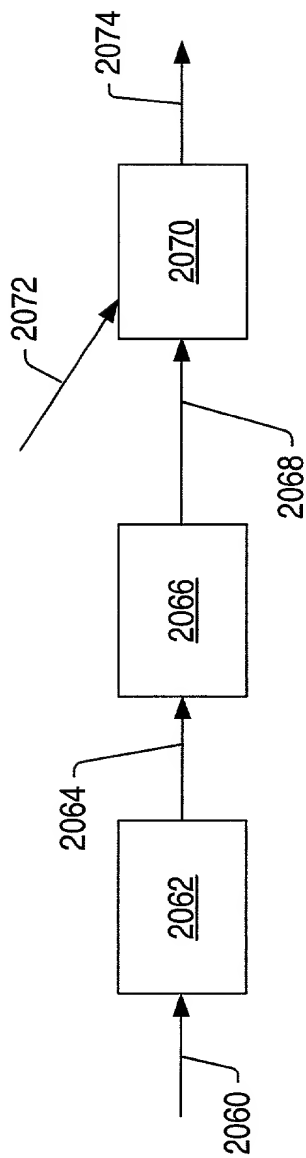


FIG. 43

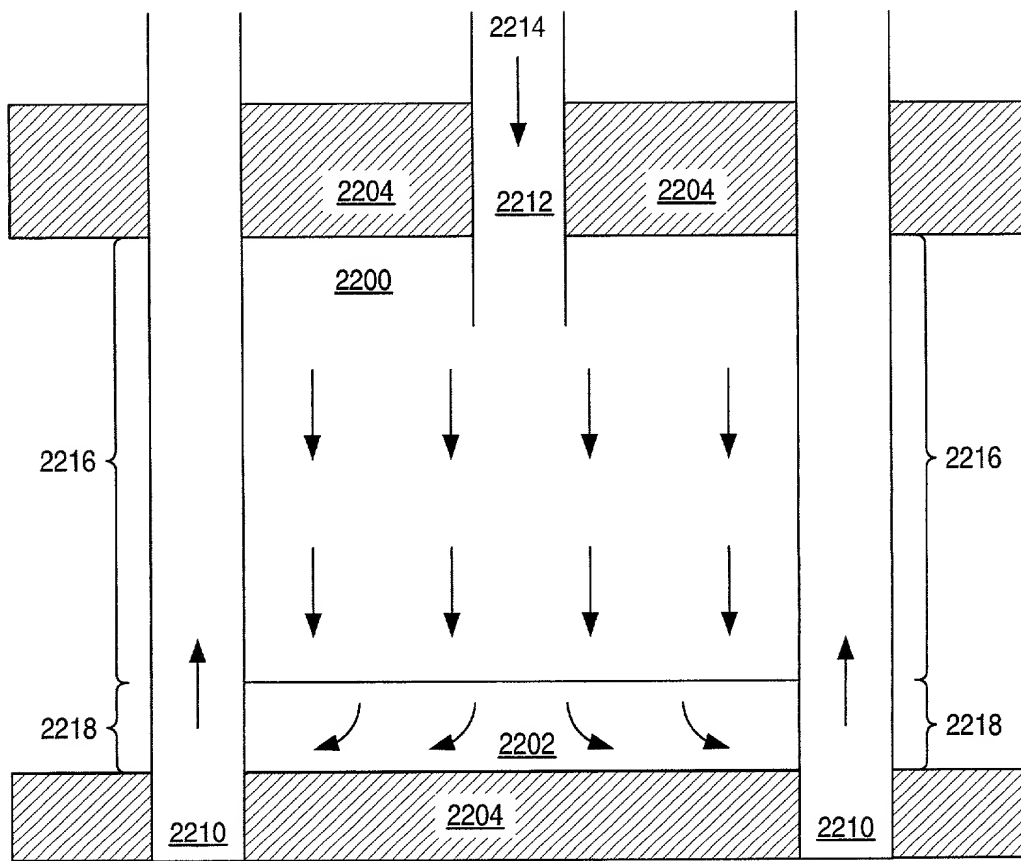


FIG. 44

FIG. 45 is a schematic diagram of a fluid flow system. The system includes a central chamber 2200, a top inlet 2214, a bottom inlet 2210, and two side outlets 2216. The chamber 2200 is surrounded by a fluid flow path 2204. Arrows indicate the direction of fluid flow: entering through the top inlet 2214, flowing down through the chamber 2200, and exiting through the side outlets 2216. The bottom inlet 2210 is also shown with an upward arrow.

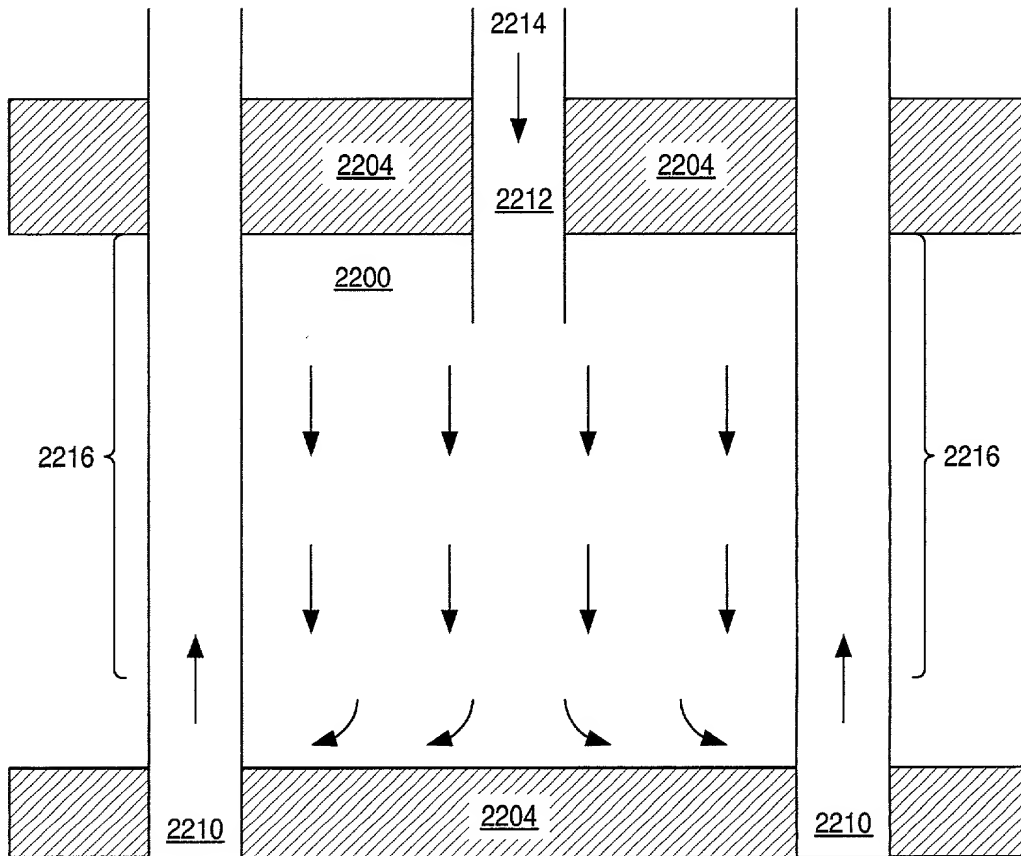


FIG. 45

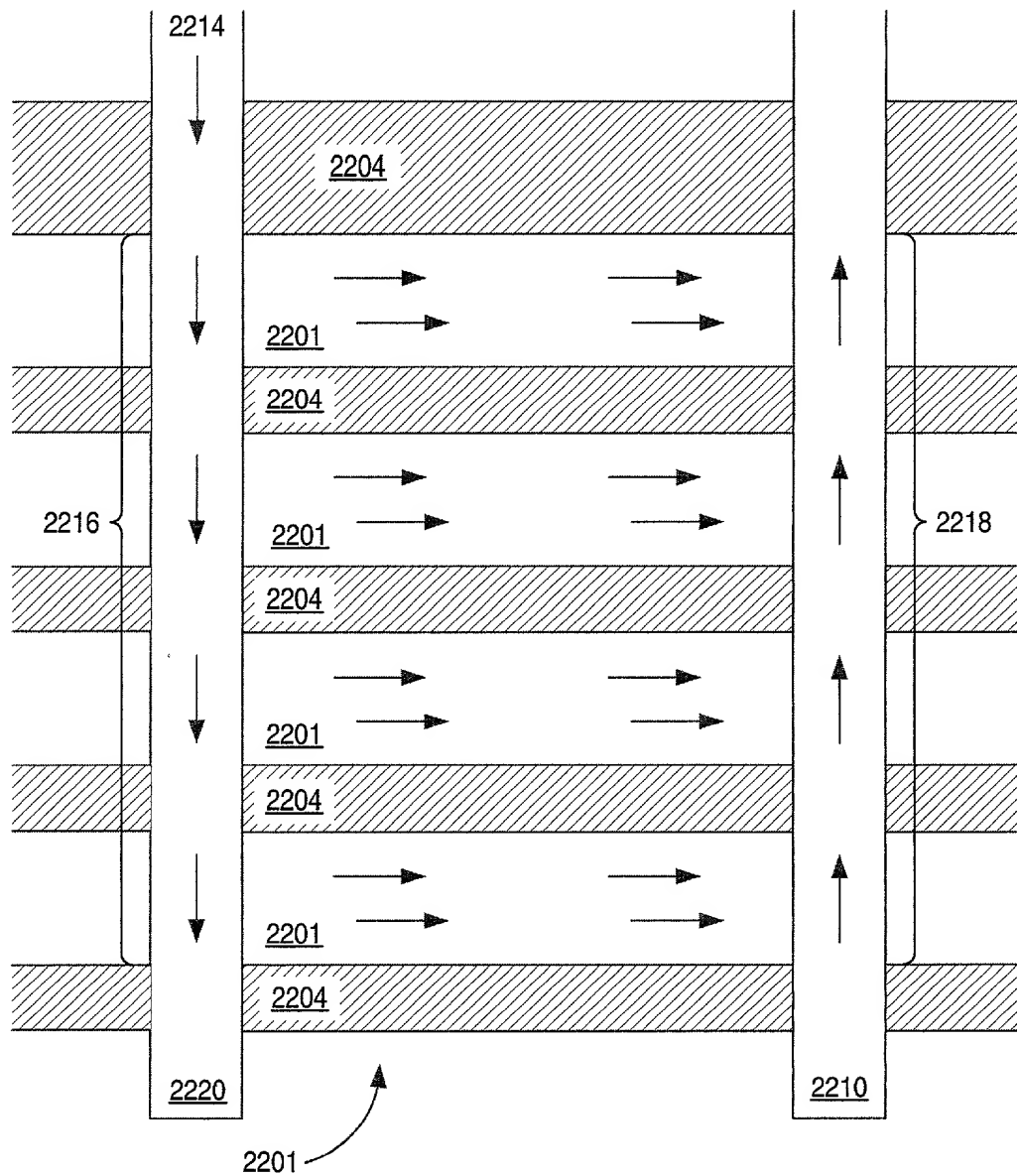


FIG. 46

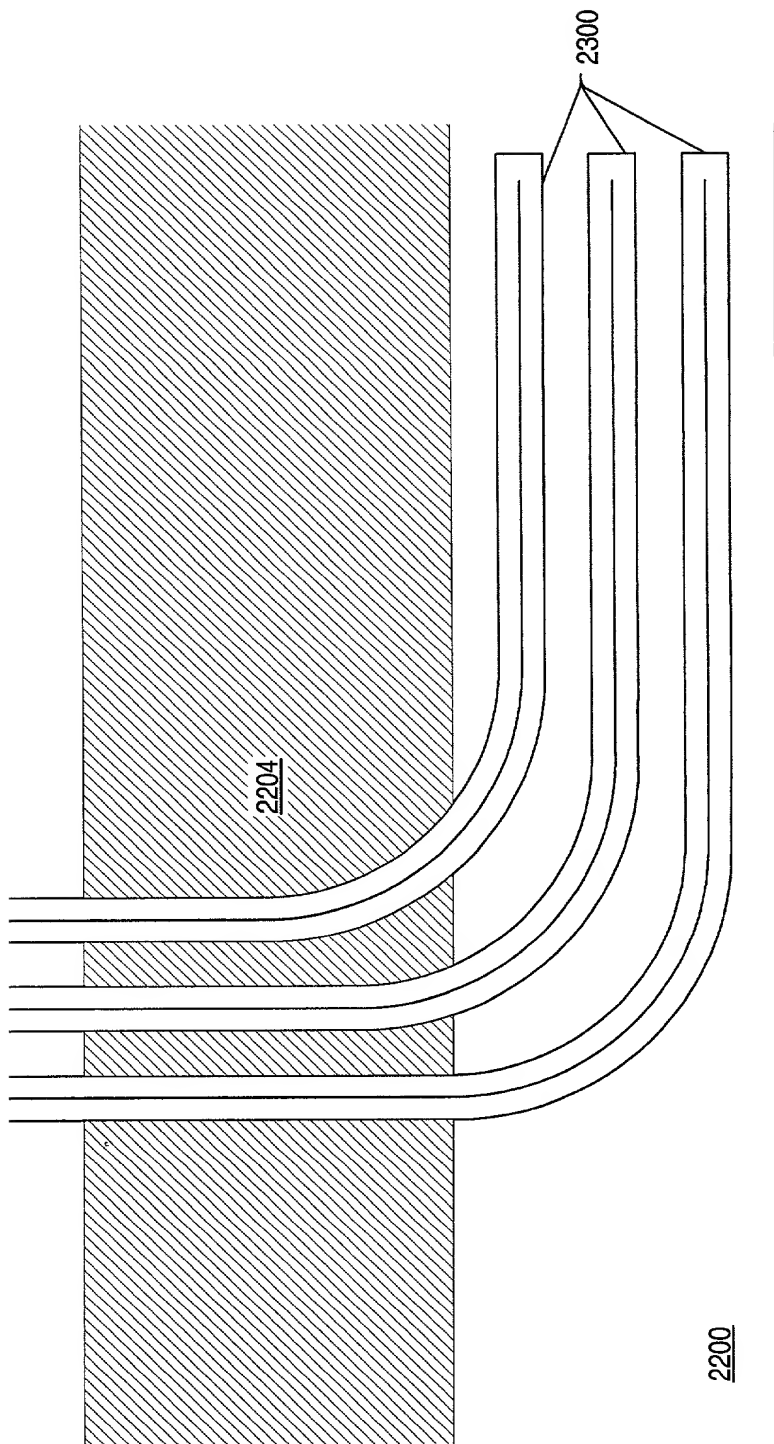


FIG. 47

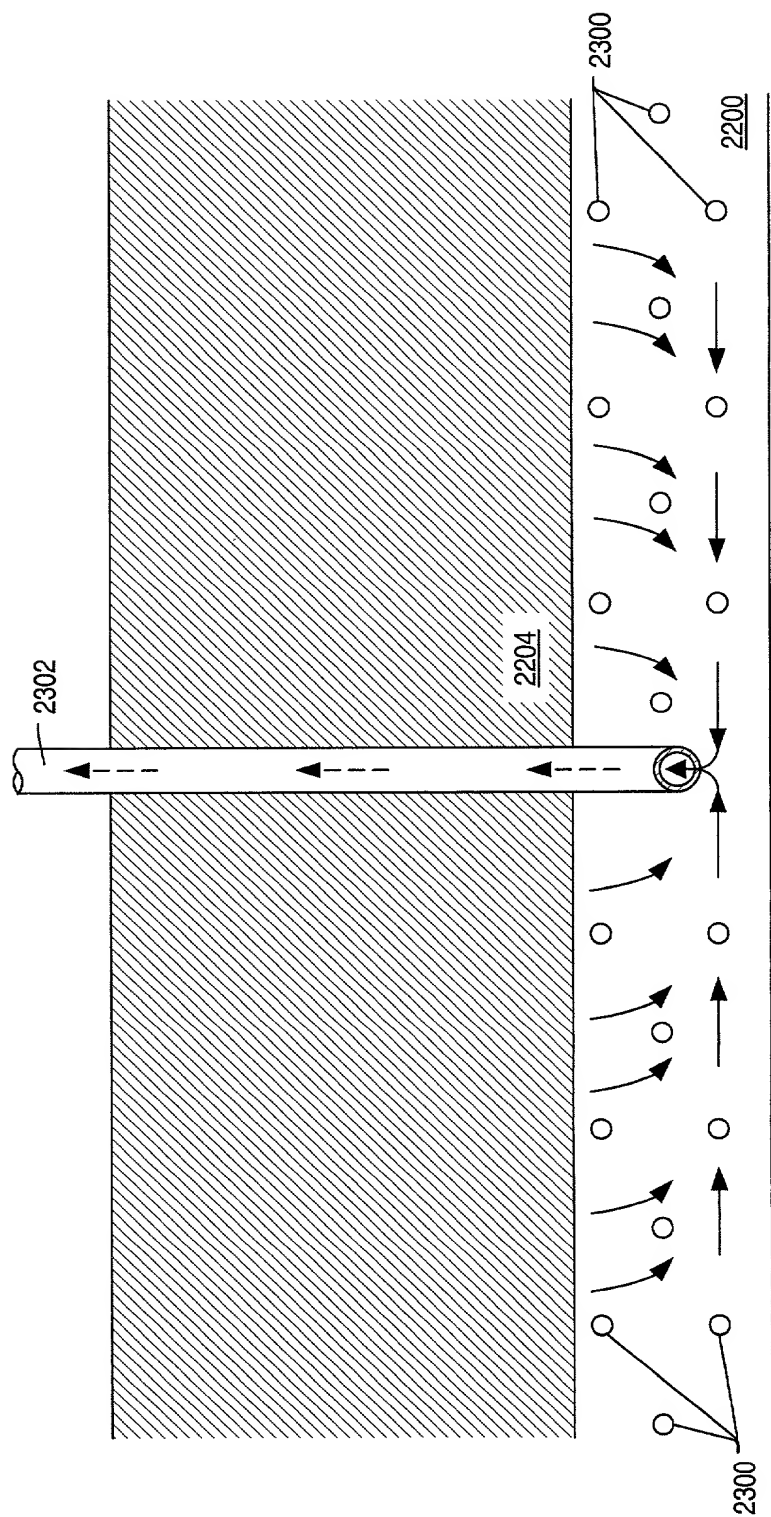


FIG. 48

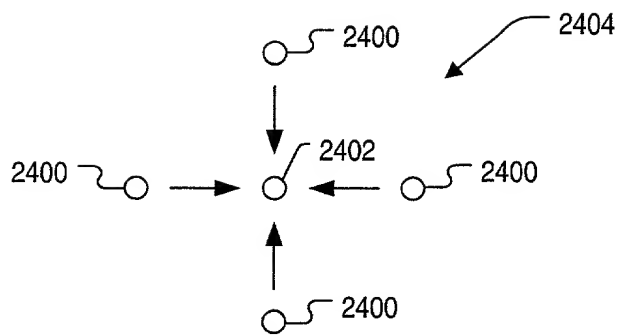


FIG. 49

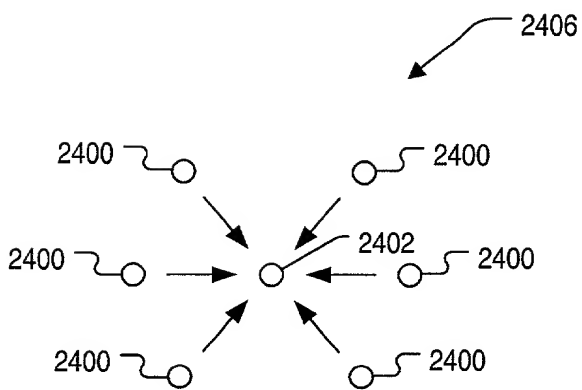


FIG. 50

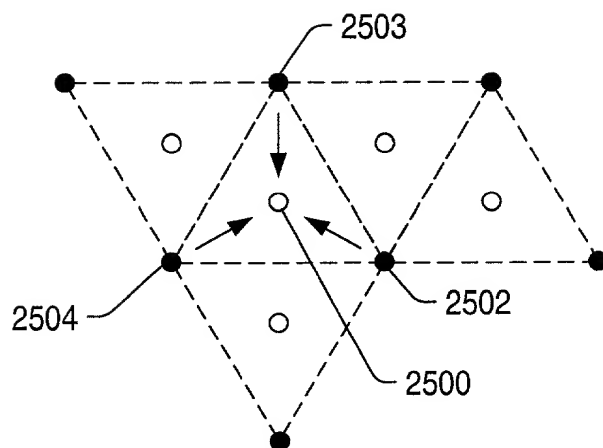


FIG. 51

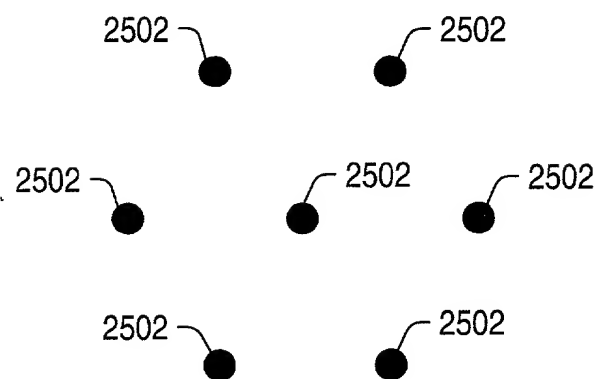


FIG. 52

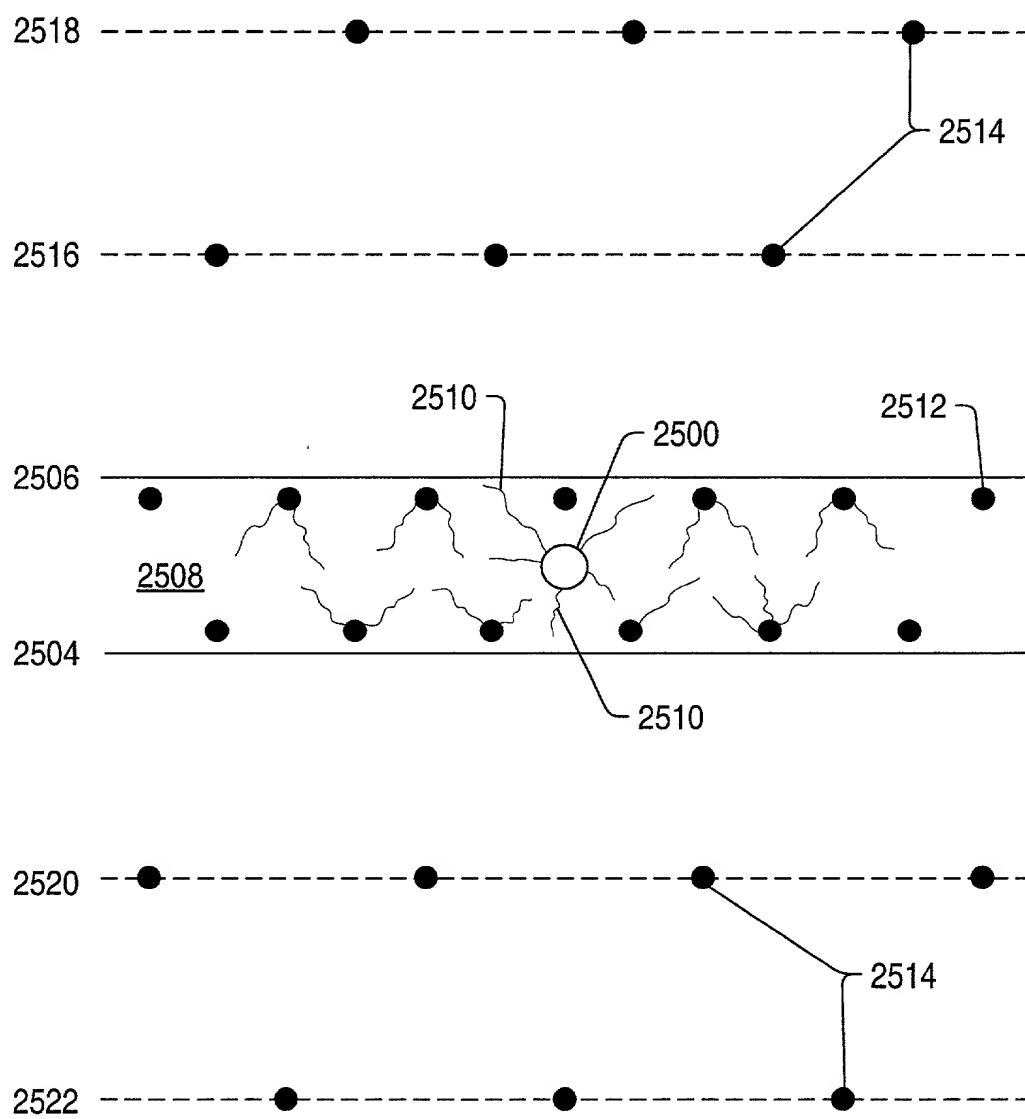


FIG. 53

FIG. 54 is a schematic diagram of a system 2500. The system 2500 includes a plurality of components 2540 and 2550. The components 2540 are arranged in a linear fashion along a dashed line 2542. The components 2550 are arranged in a linear fashion along a dashed line 2544. The components 2540 and 2550 are connected to each other via a dashed line 2548. The components 2540 and 2550 are also connected to each other via a dashed line 2552.

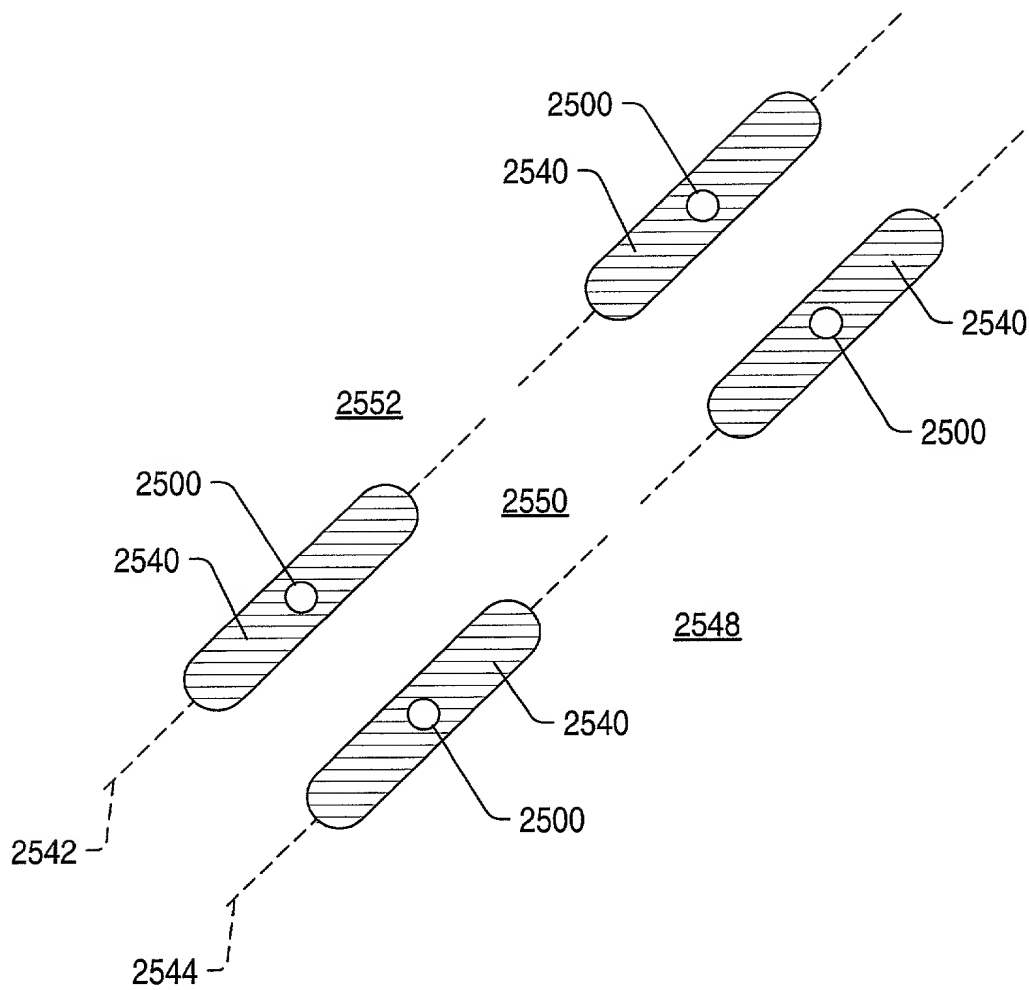


FIG. 54

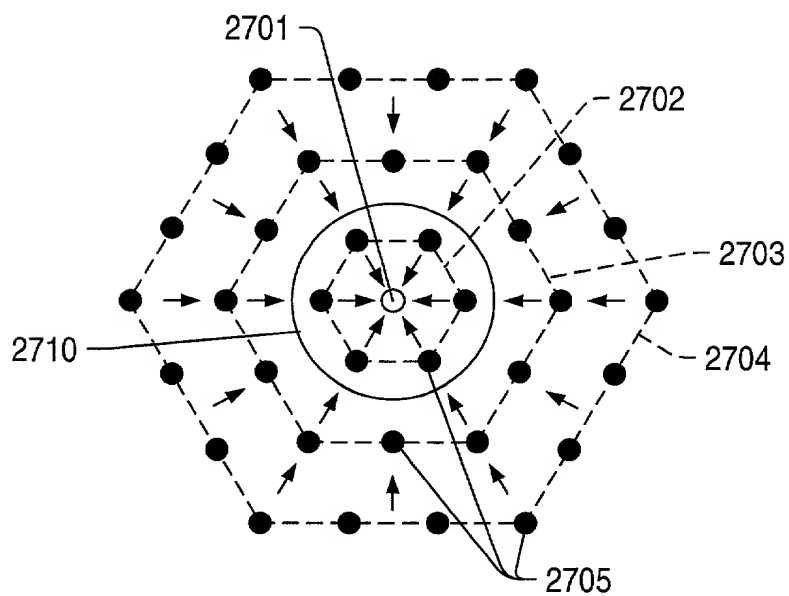


FIG. 57

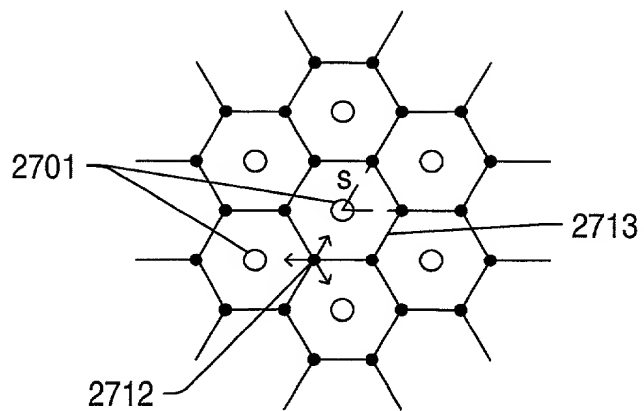


FIG. 58

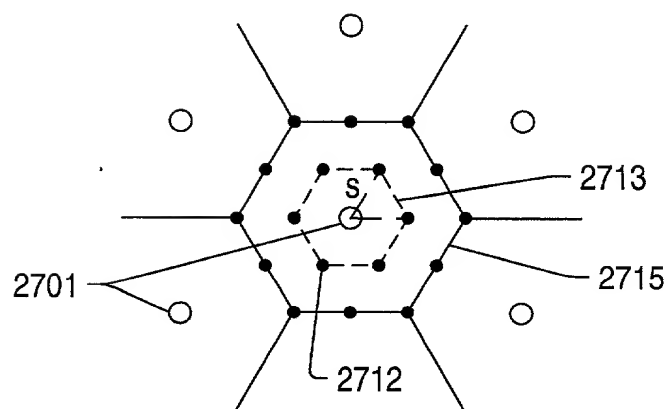


FIG. 59

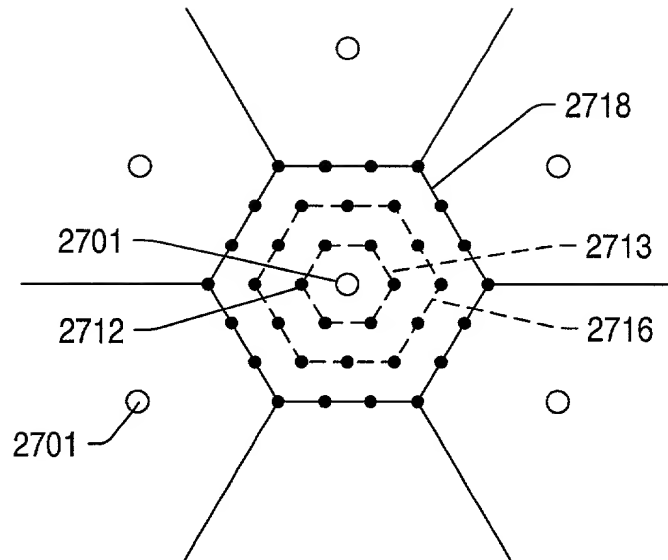


FIG. 60

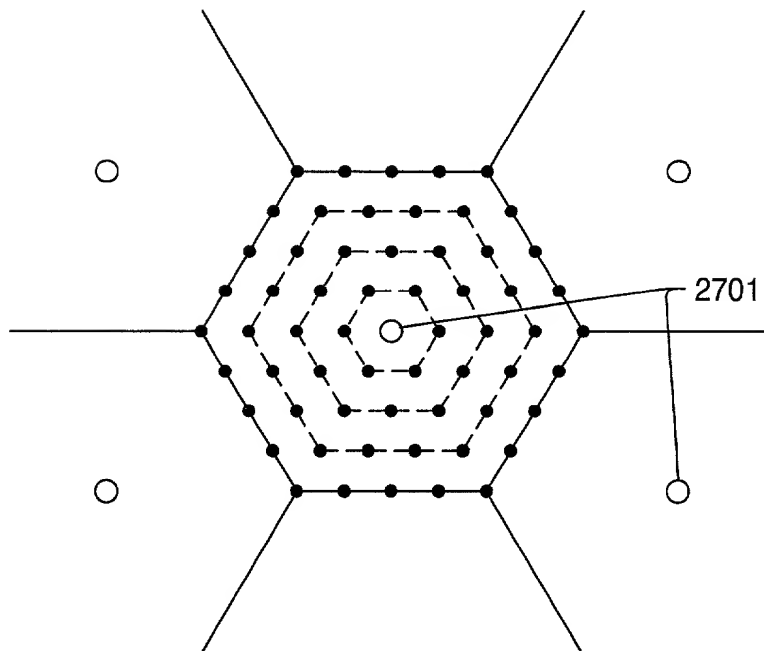


FIG. 61

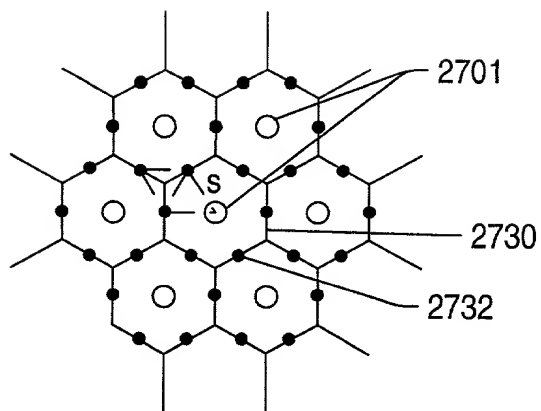


FIG. 62

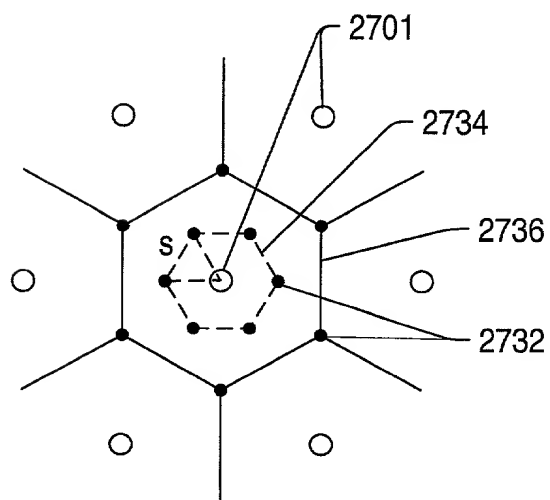


FIG. 63

FIG. 64 is a schematic diagram of a hexagonal unit cell of a crystal lattice. The unit cell is defined by a dashed hexagon. The lattice points are represented by small circles. The unit cell is divided into six sectors by lines extending from the center to the vertices. The sectors are labeled 2701, 2738, 2732, 2740, 2732, and 2701. The center of the unit cell is labeled 'S'.

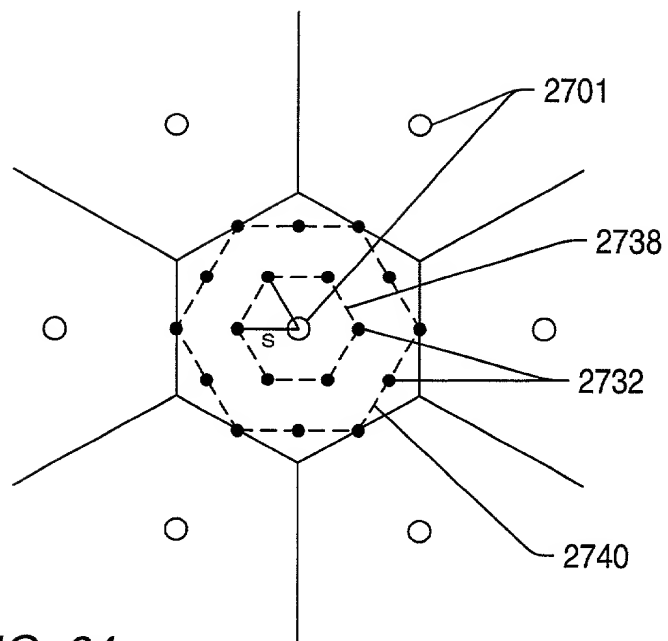


FIG. 64

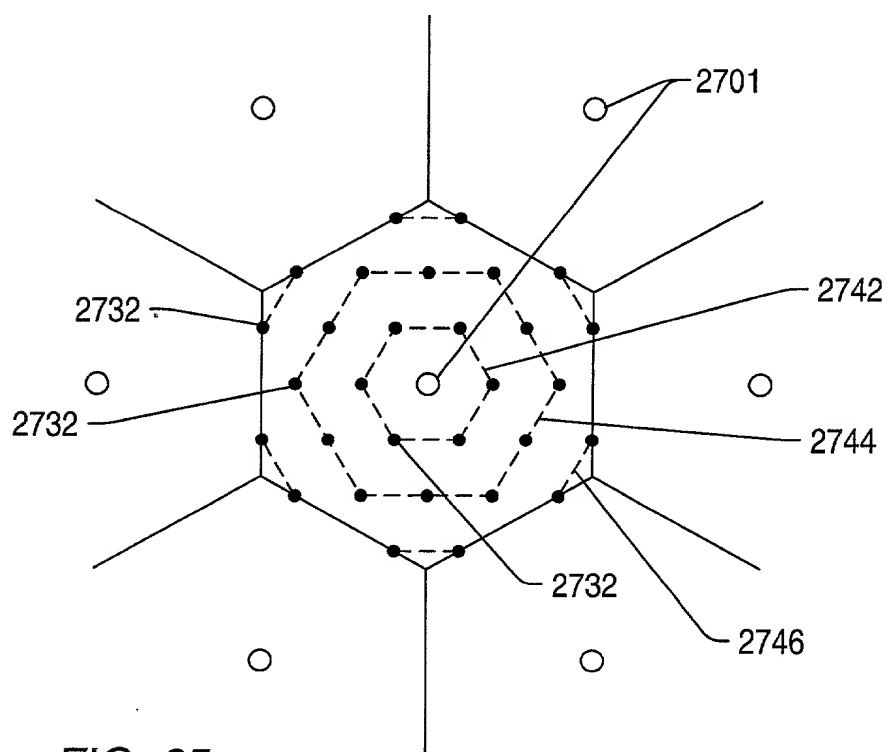


FIG. 65

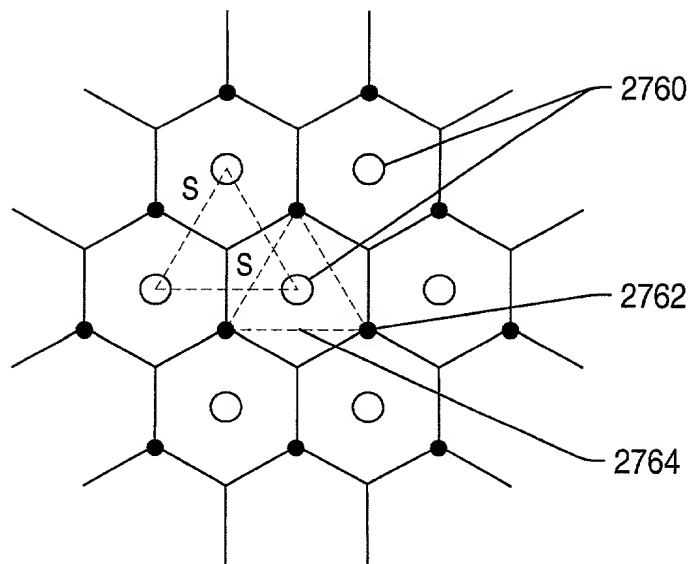


FIG. 66

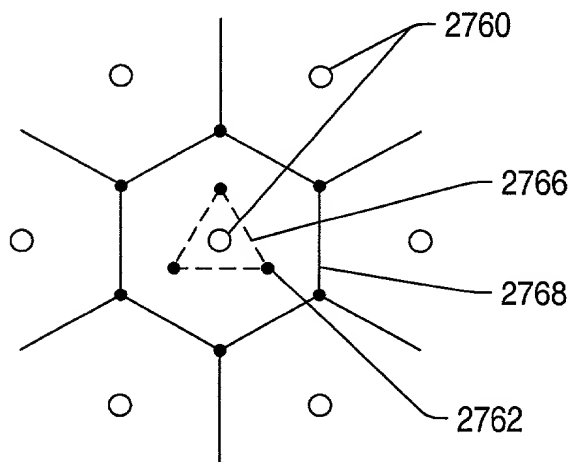


FIG. 67

FIG. 68 is a schematic diagram of a hexagonal unit cell of a crystal structure. The unit cell is defined by a hexagonal outline. Inside the unit cell, there are several points represented by dots. A dashed line connects some of these points, forming a smaller hexagonal shape. Outside the unit cell, there are several circles representing atoms or ions. The diagram is labeled with reference numerals 2760, 2772, 2762, and 2770.

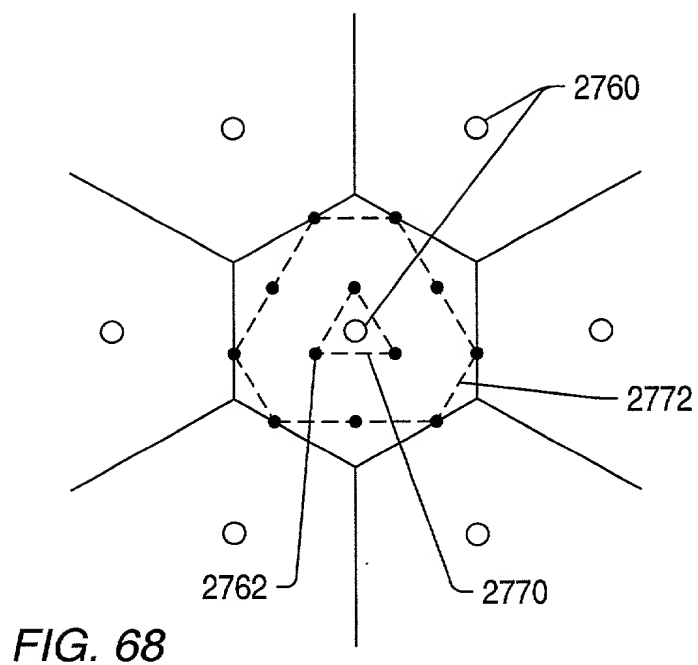


FIG. 68

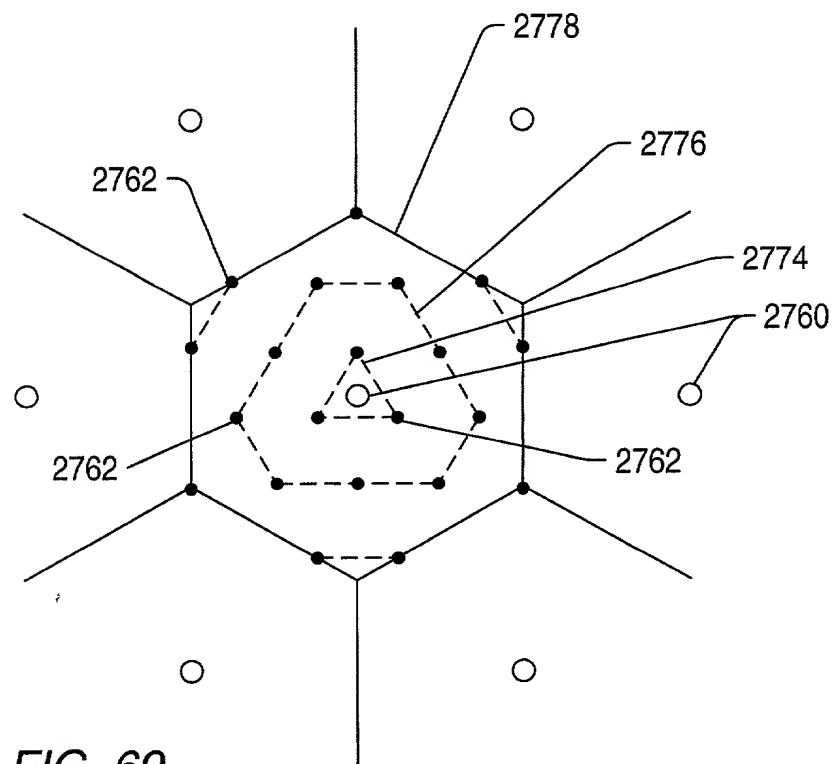


FIG. 69

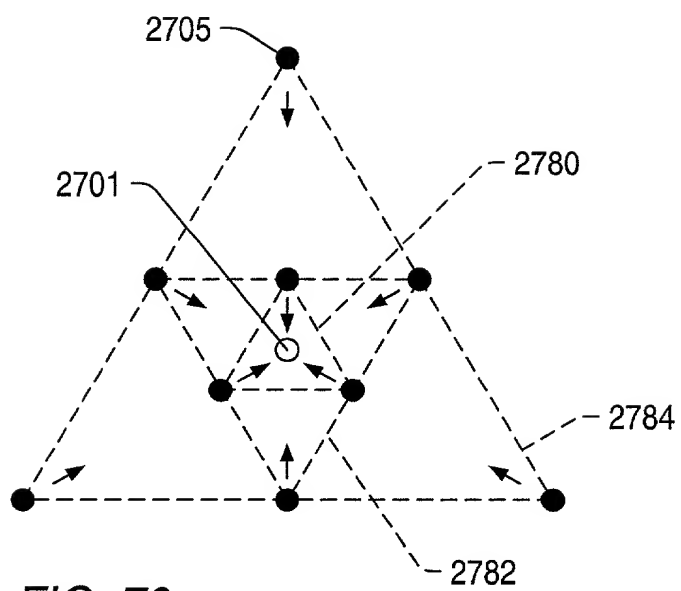


FIG. 70

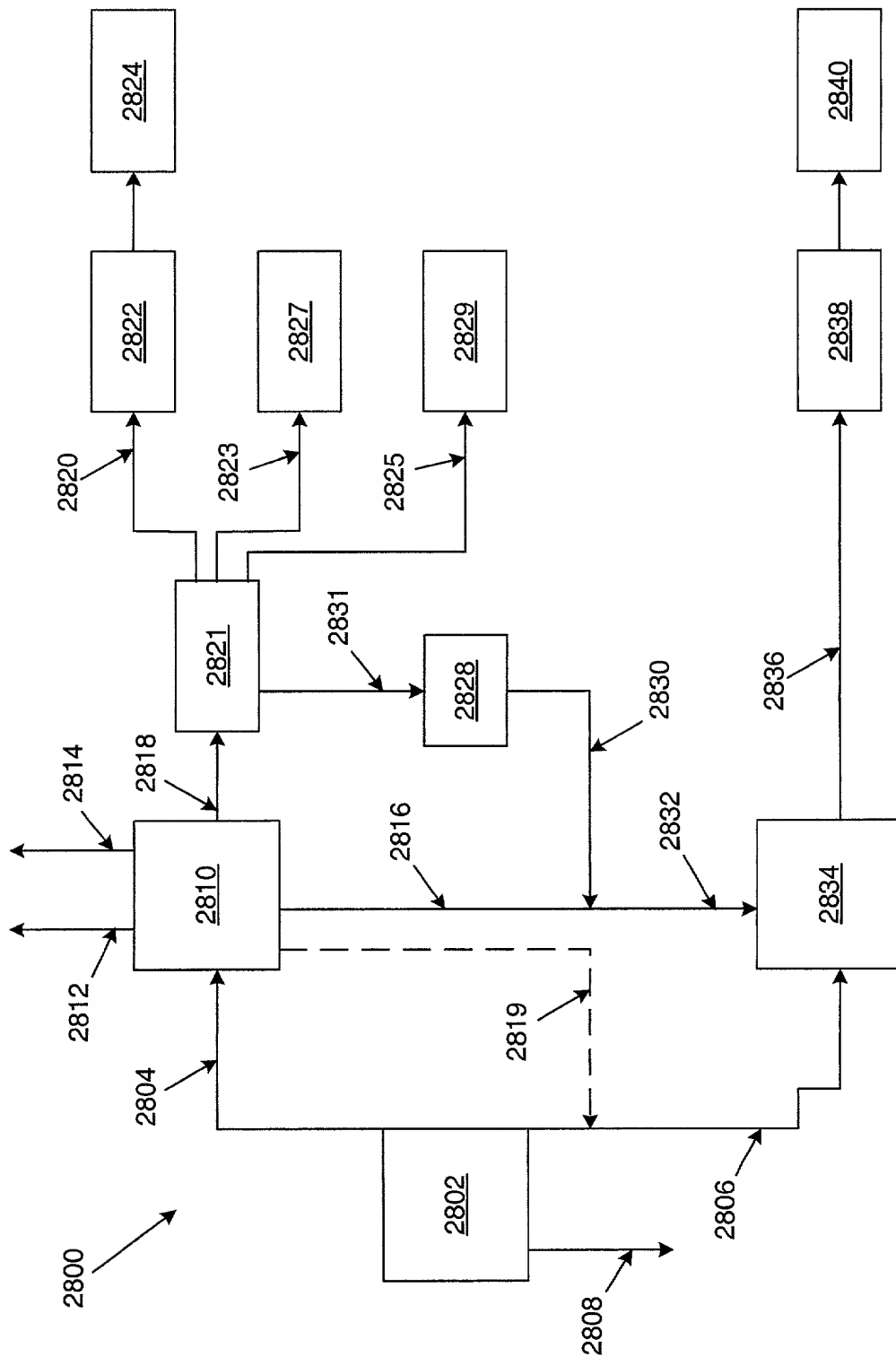


Fig. 71

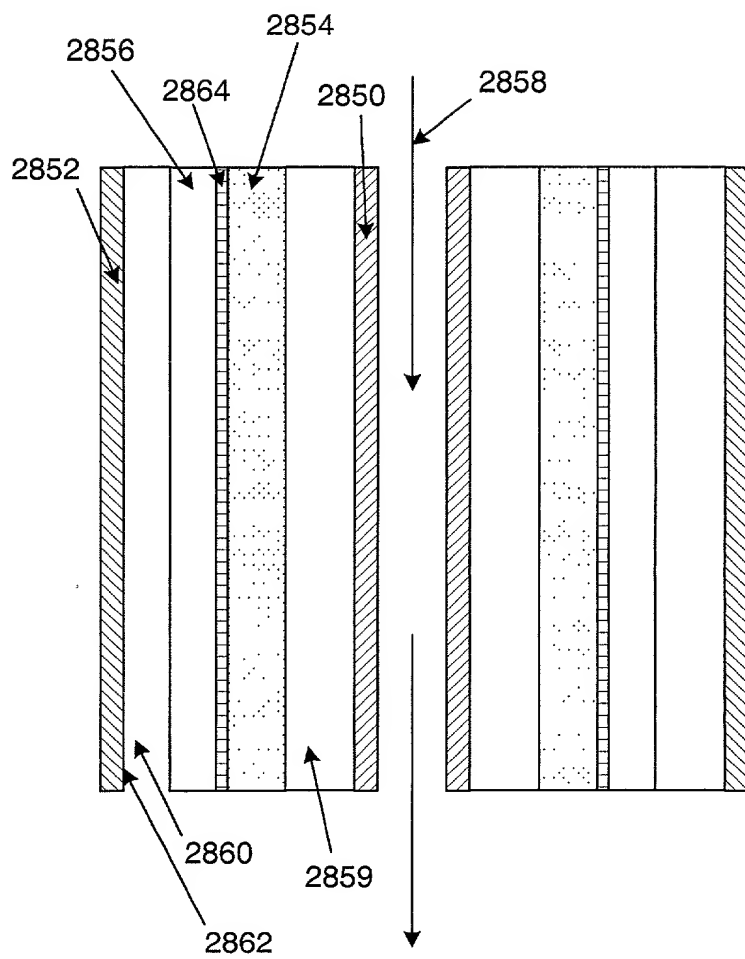


Fig. 72

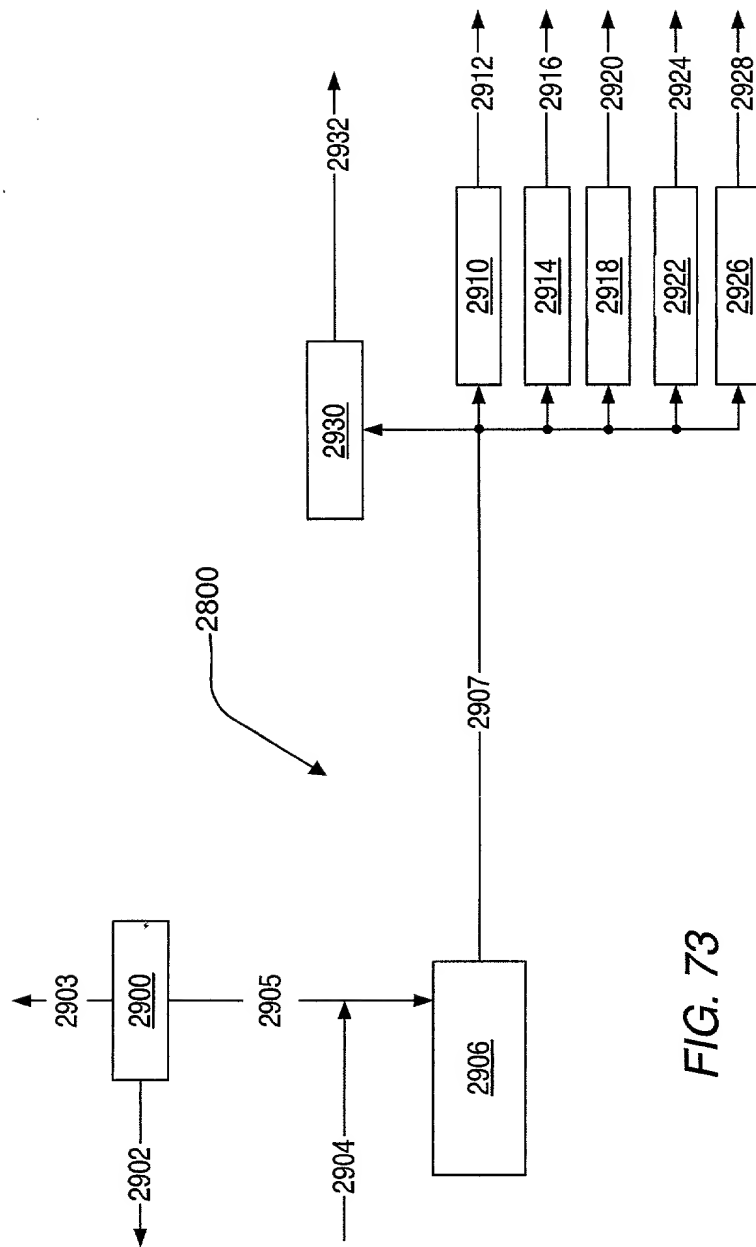


FIG. 73

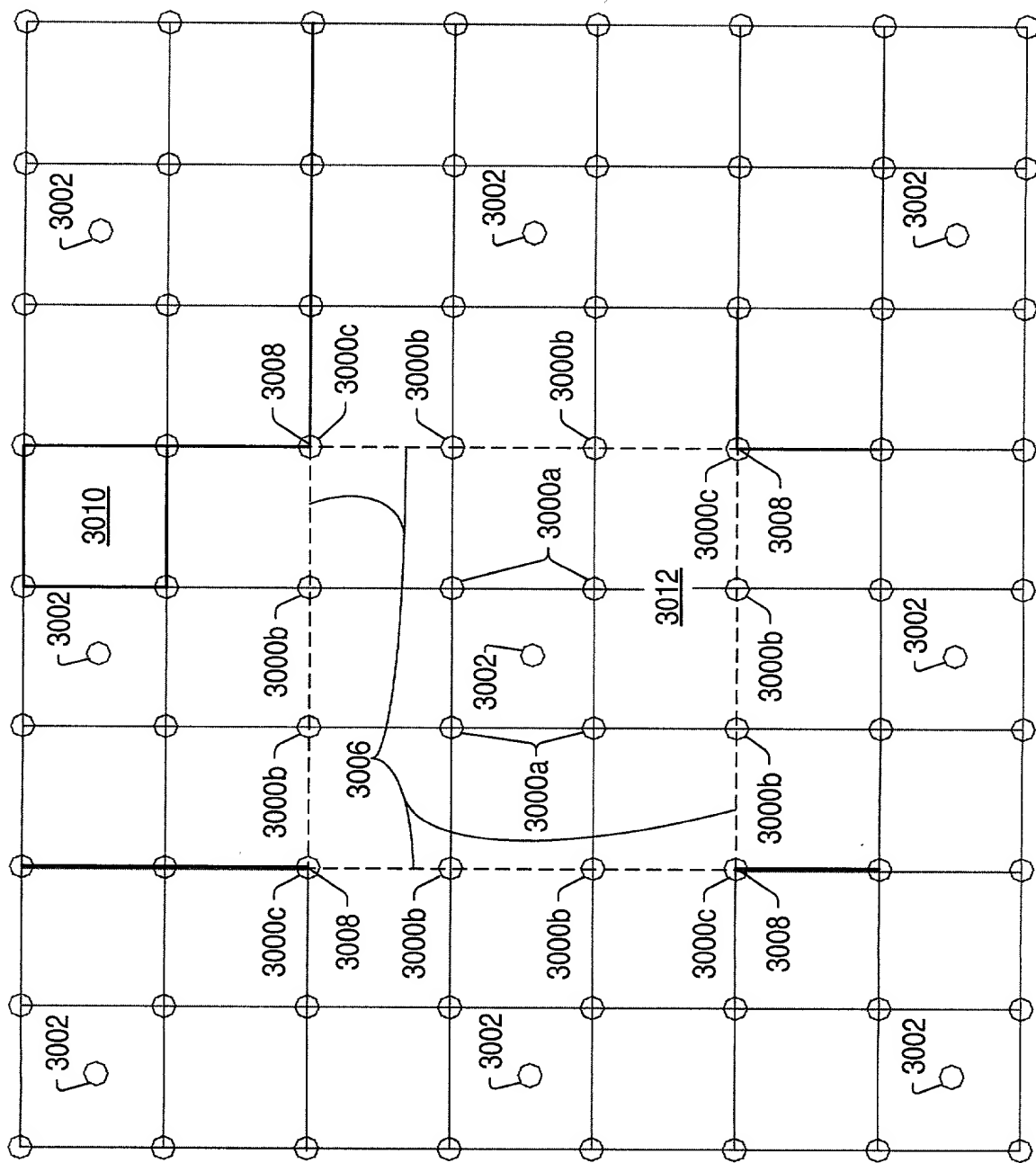


FIG. 74

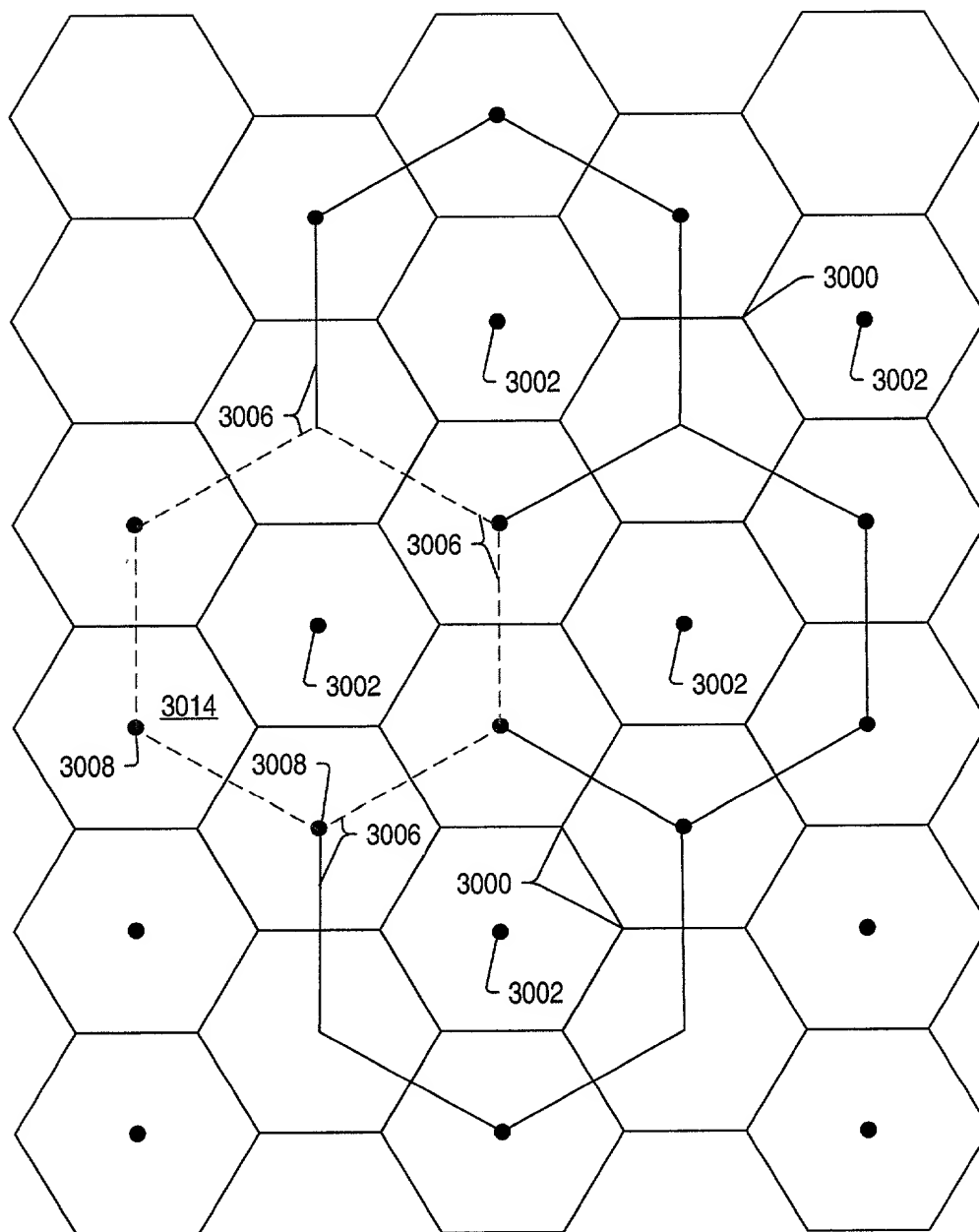


FIG. 75

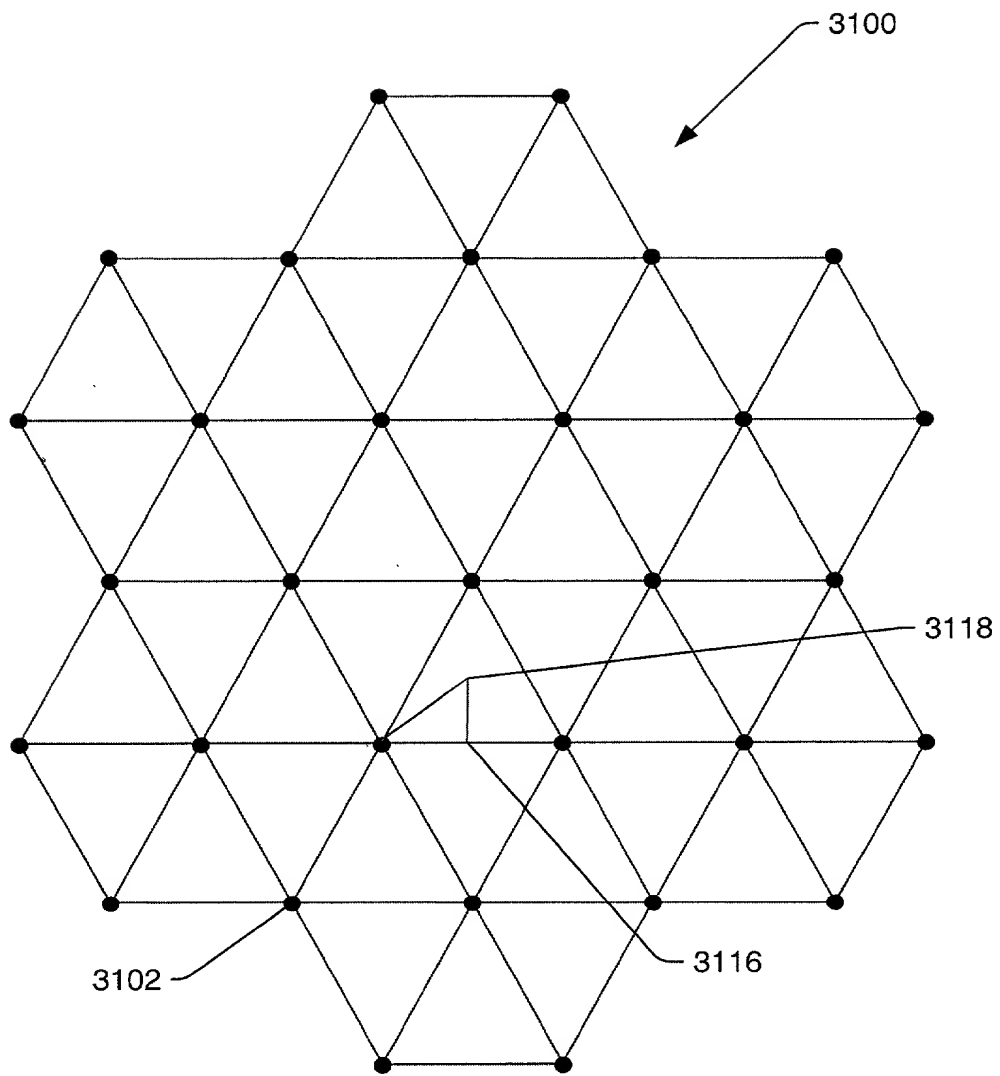


FIG. 76

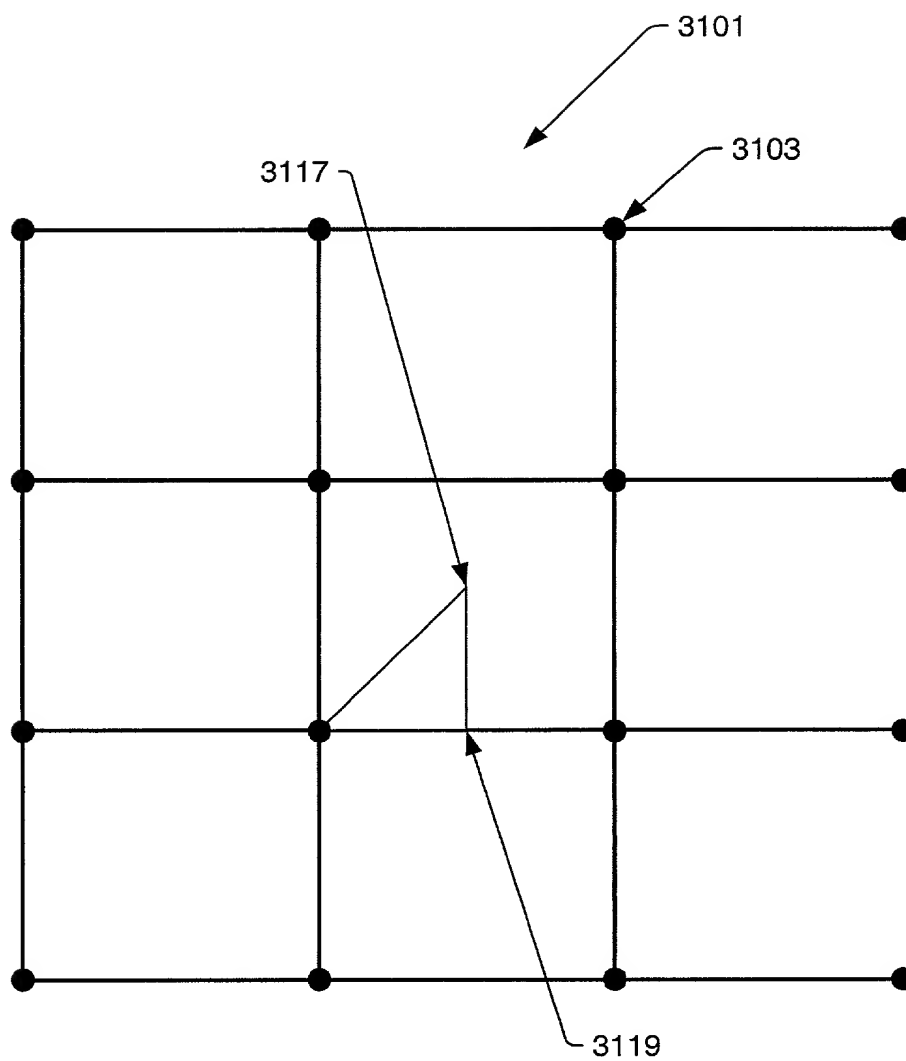


FIG. 76a

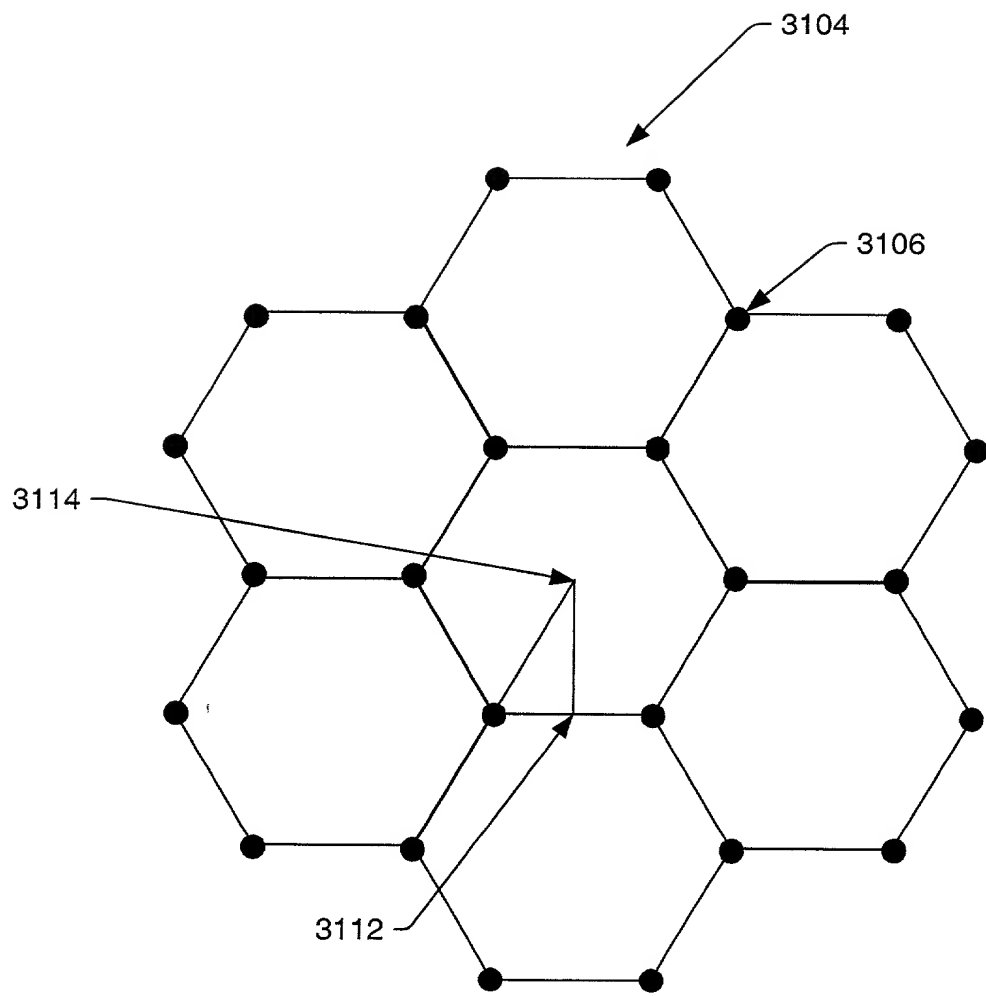


FIG. 77

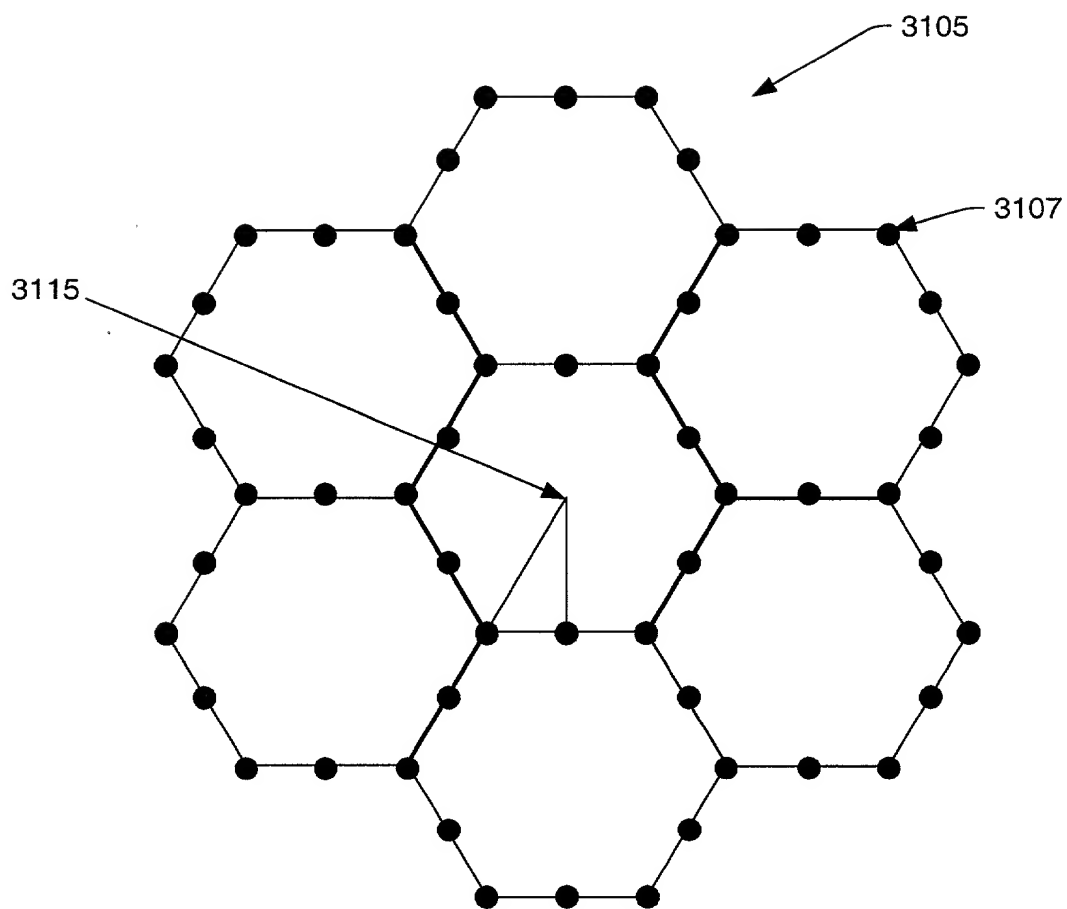


FIG. 77a

3110

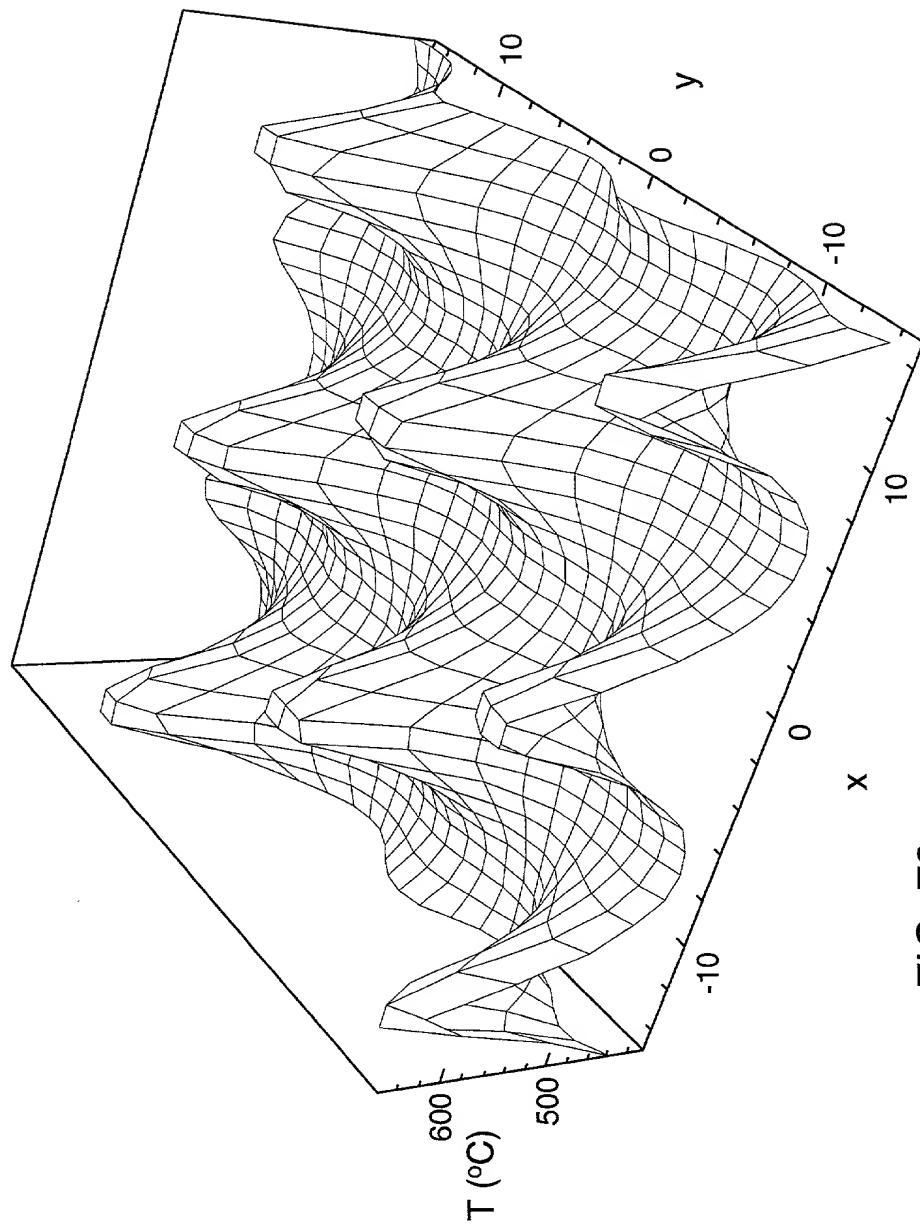


FIG. 78

3108

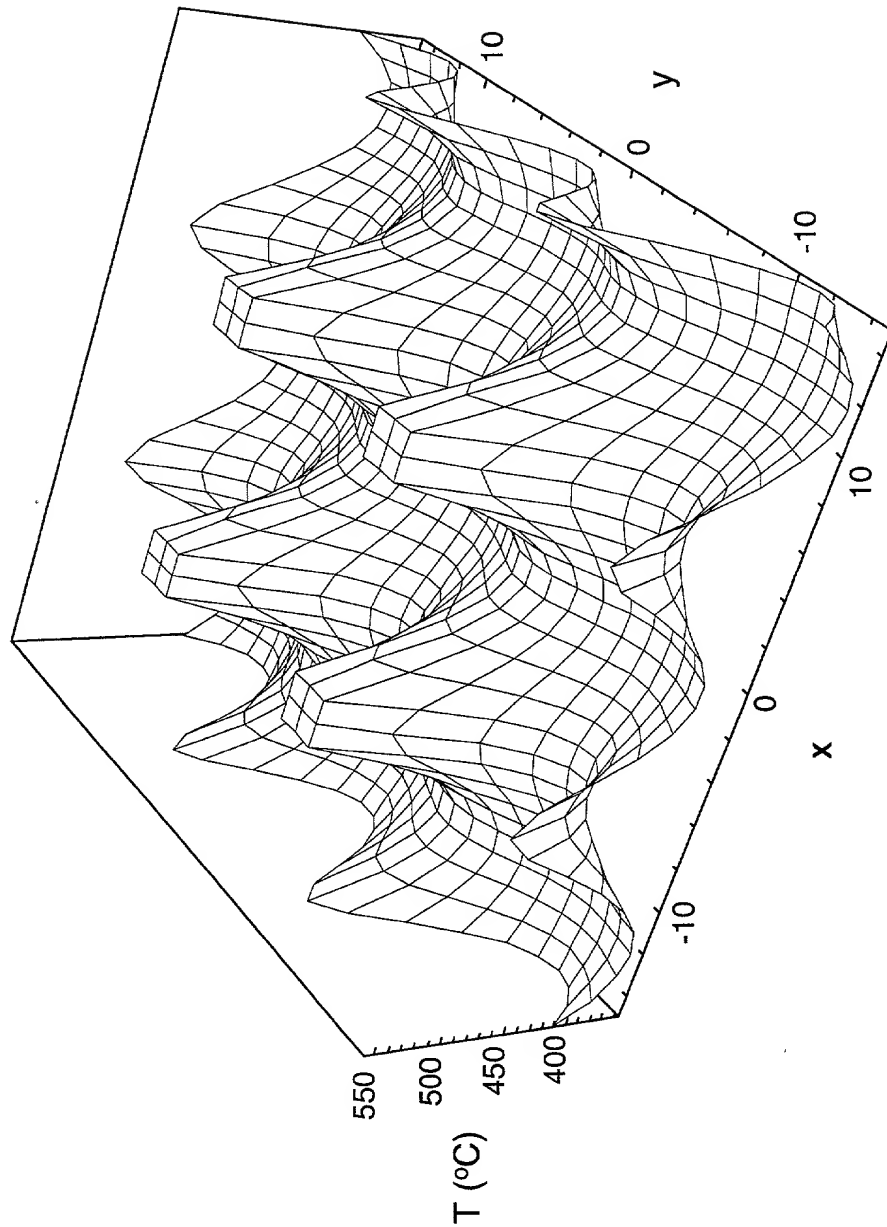


FIG. 79

3109

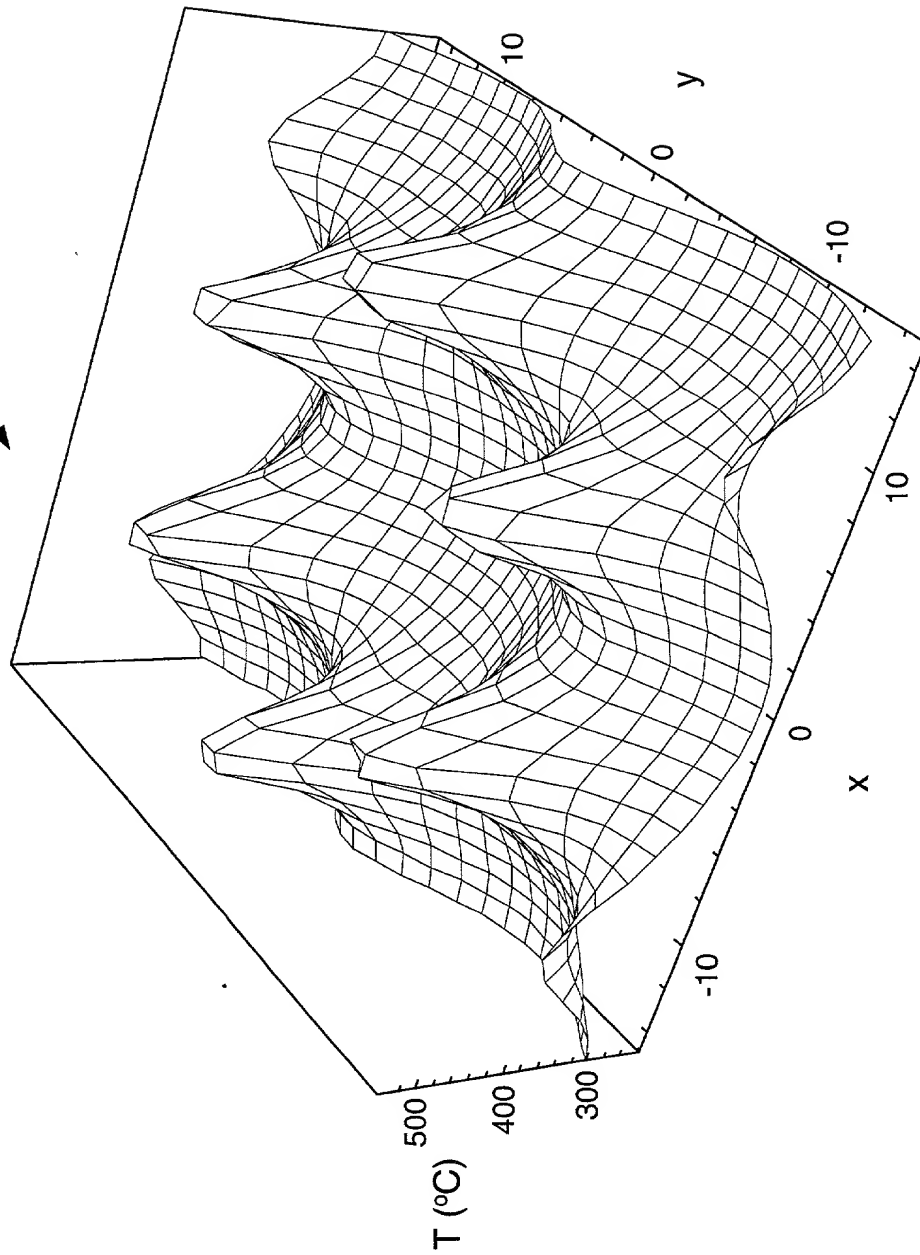


FIG. 79a

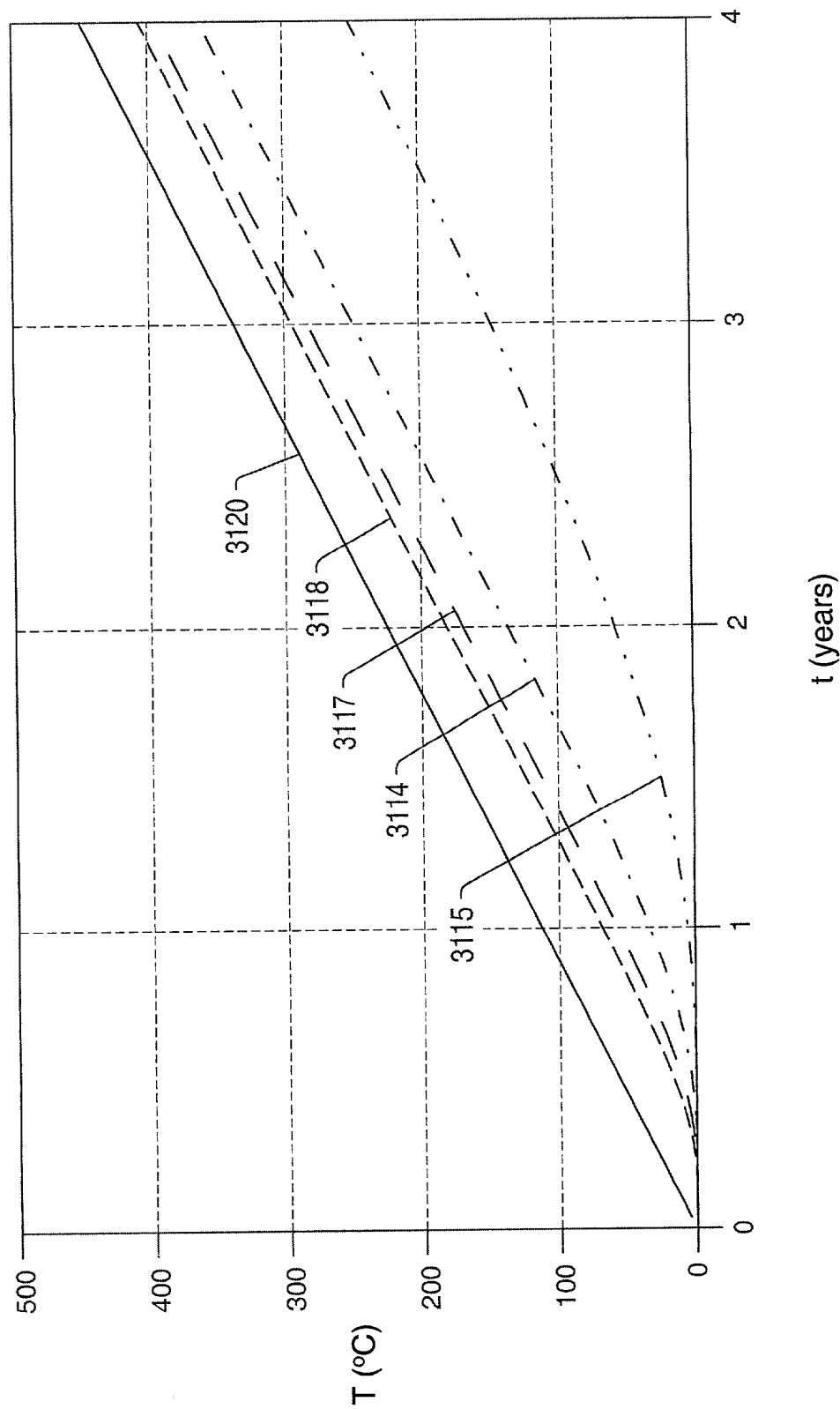


FIG. 80

FIG. 81 is a graph showing the temperature T (°C) versus time t (years) for various conditions. The graph includes curves labeled 3114, 3118, 3116, 3112, and 3120, which represent different thermal profiles over time.

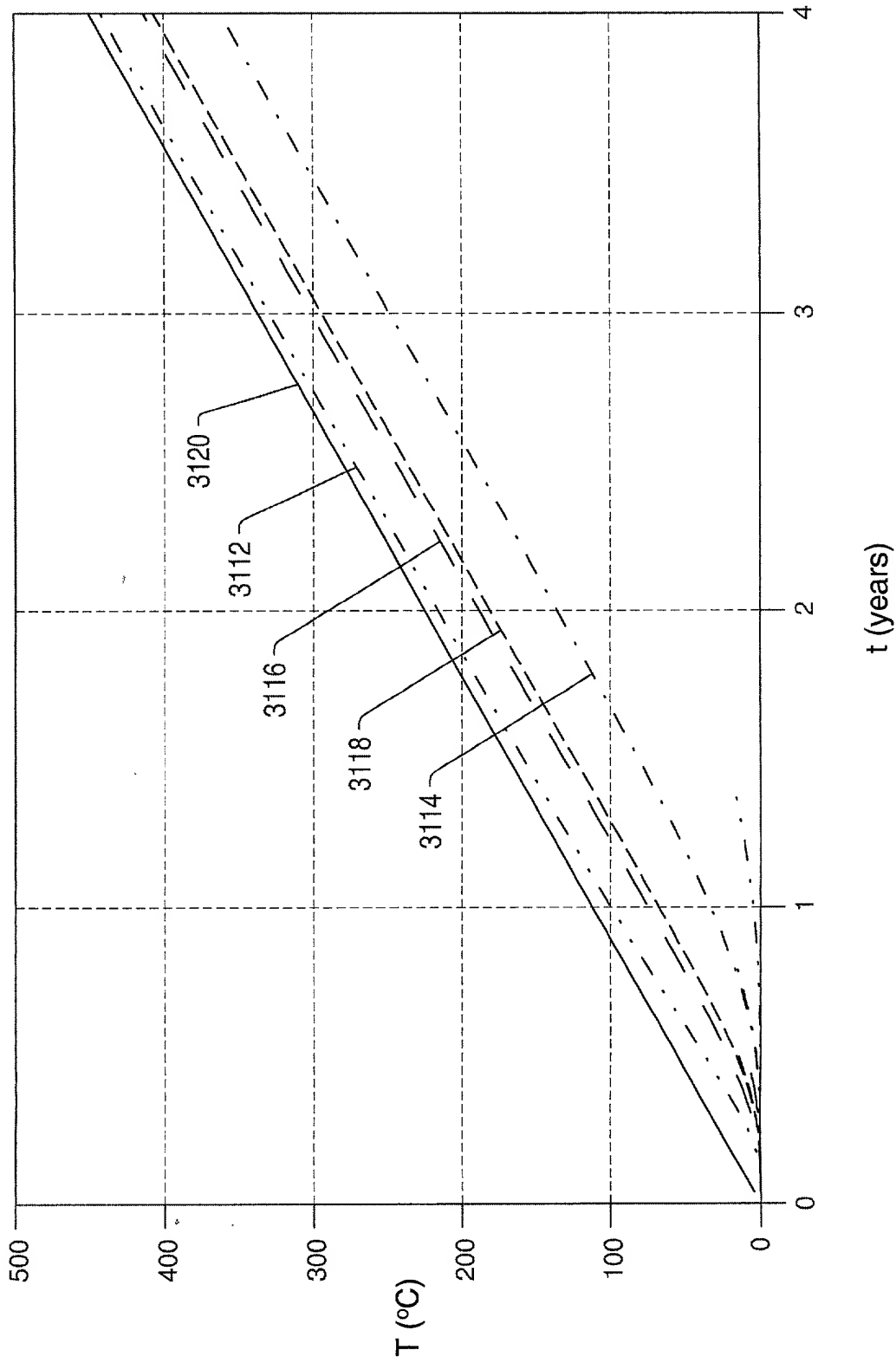


FIG. 81

FIG. 81a is a graph showing the temperature T (°C) versus time t (years) for three different cases, 3118, 3119, and 3120. The temperature T (°C) is plotted on the vertical axis, ranging from 0 to 500. The time t (years) is plotted on the horizontal axis, ranging from 0 to 4. The graph shows that the temperature decreases over time for all three cases, with case 3118 showing the highest temperature and case 3120 showing the lowest temperature.

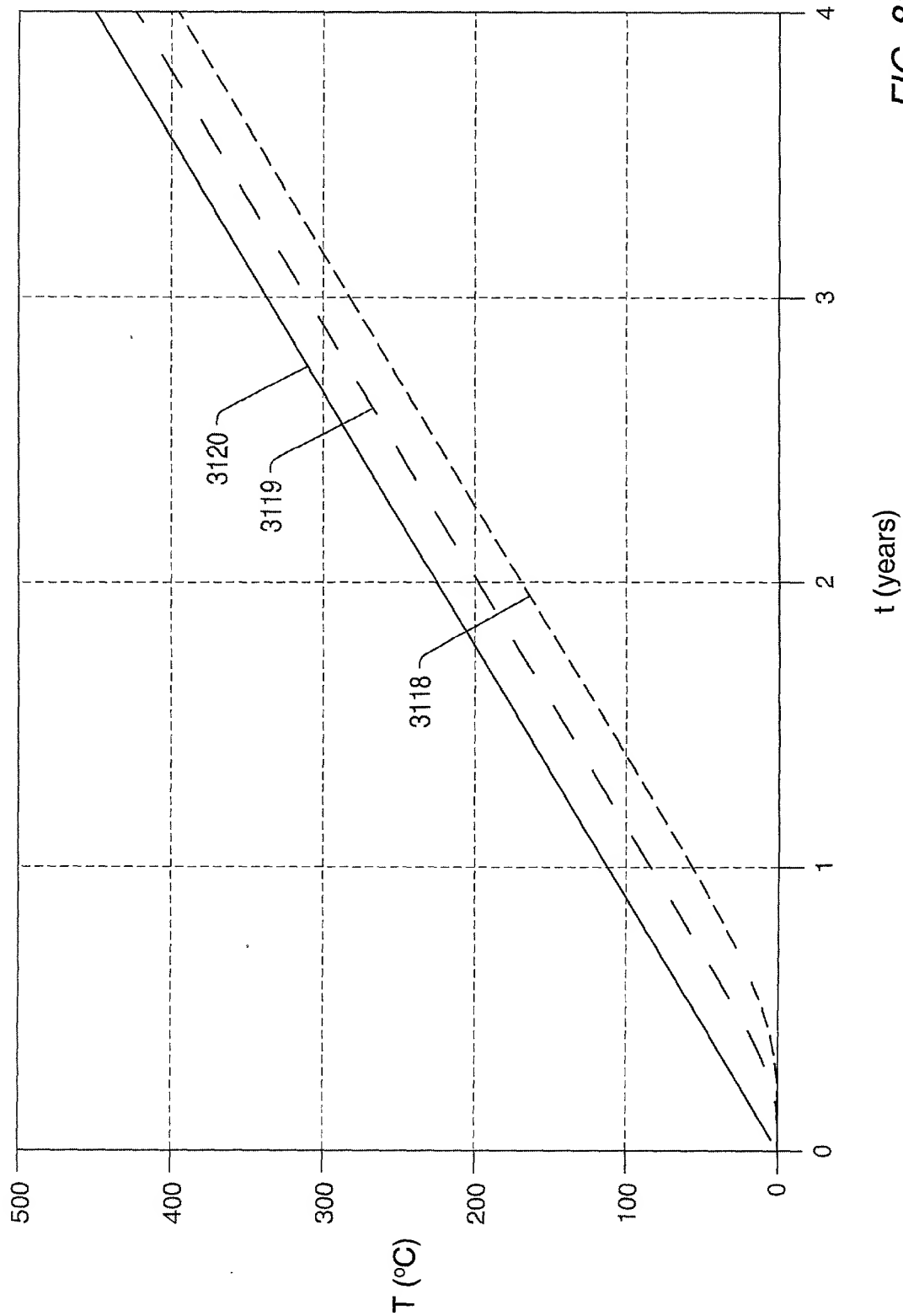


FIG. 81a

FIG. 81b is a graph showing the temperature T (°C) versus time t (years) for a system. The graph includes several curves labeled 3114, 3117, 3118, and 3120, which represent different thermal profiles over time.

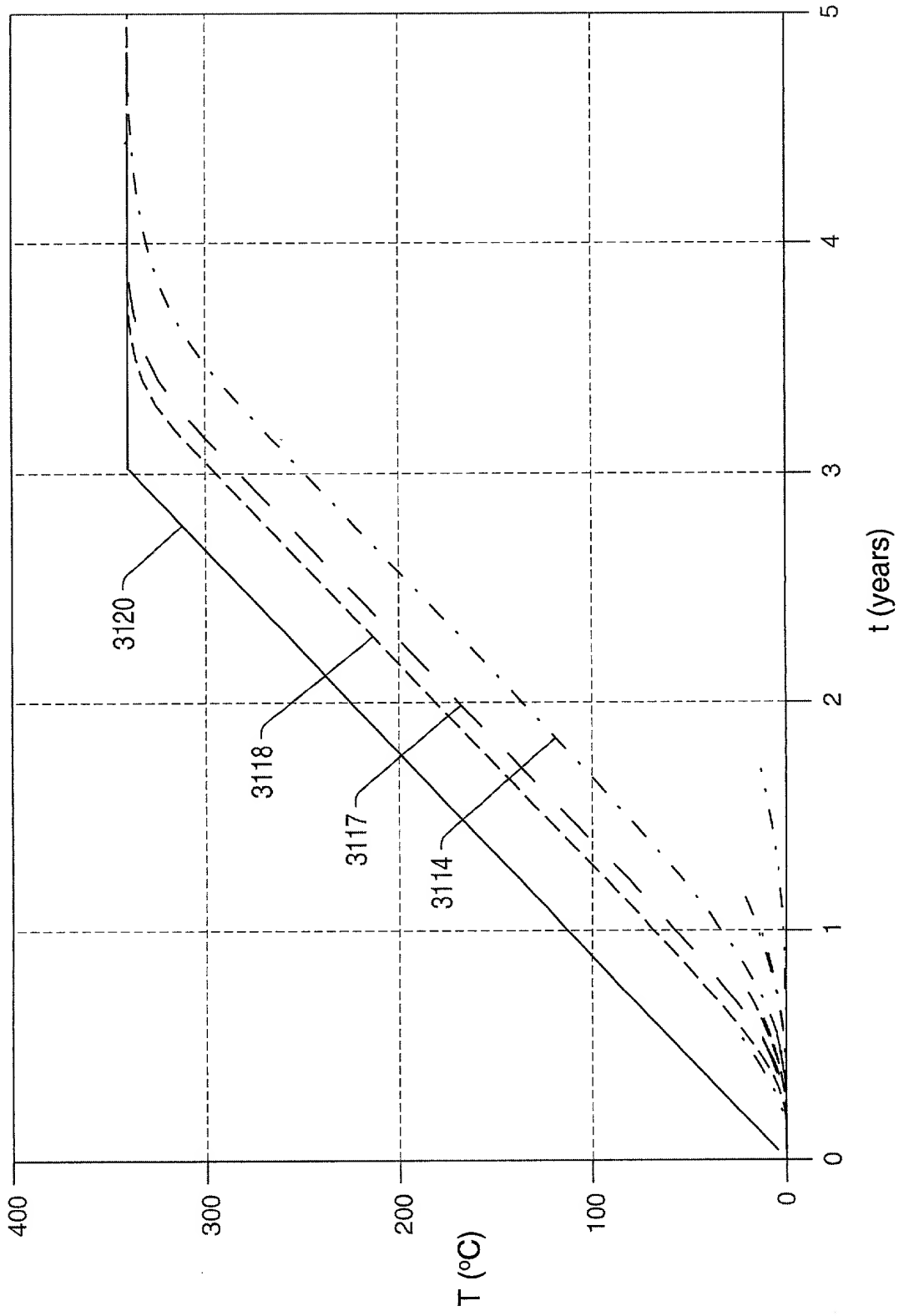


FIG. 81b

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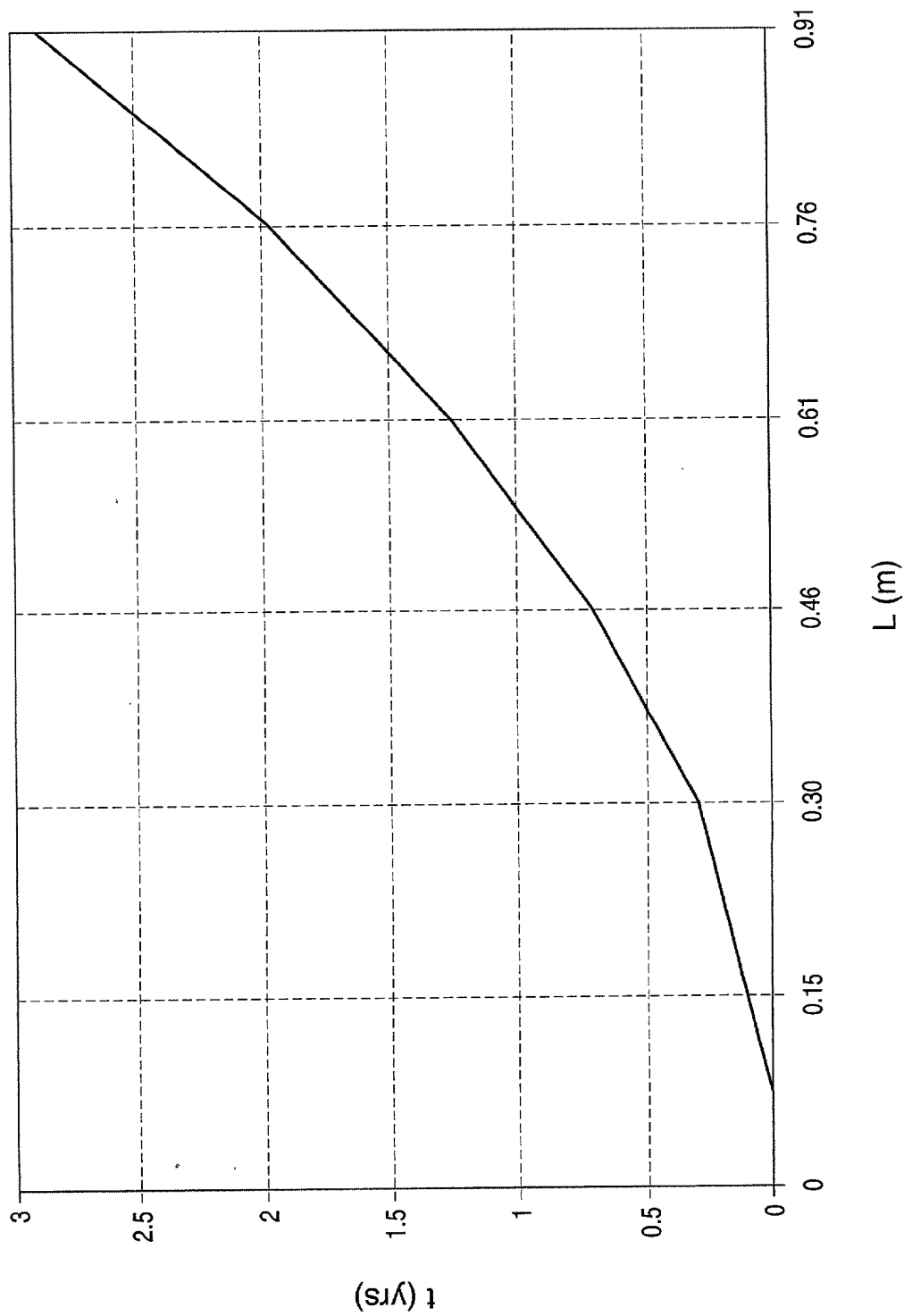


FIG. 82

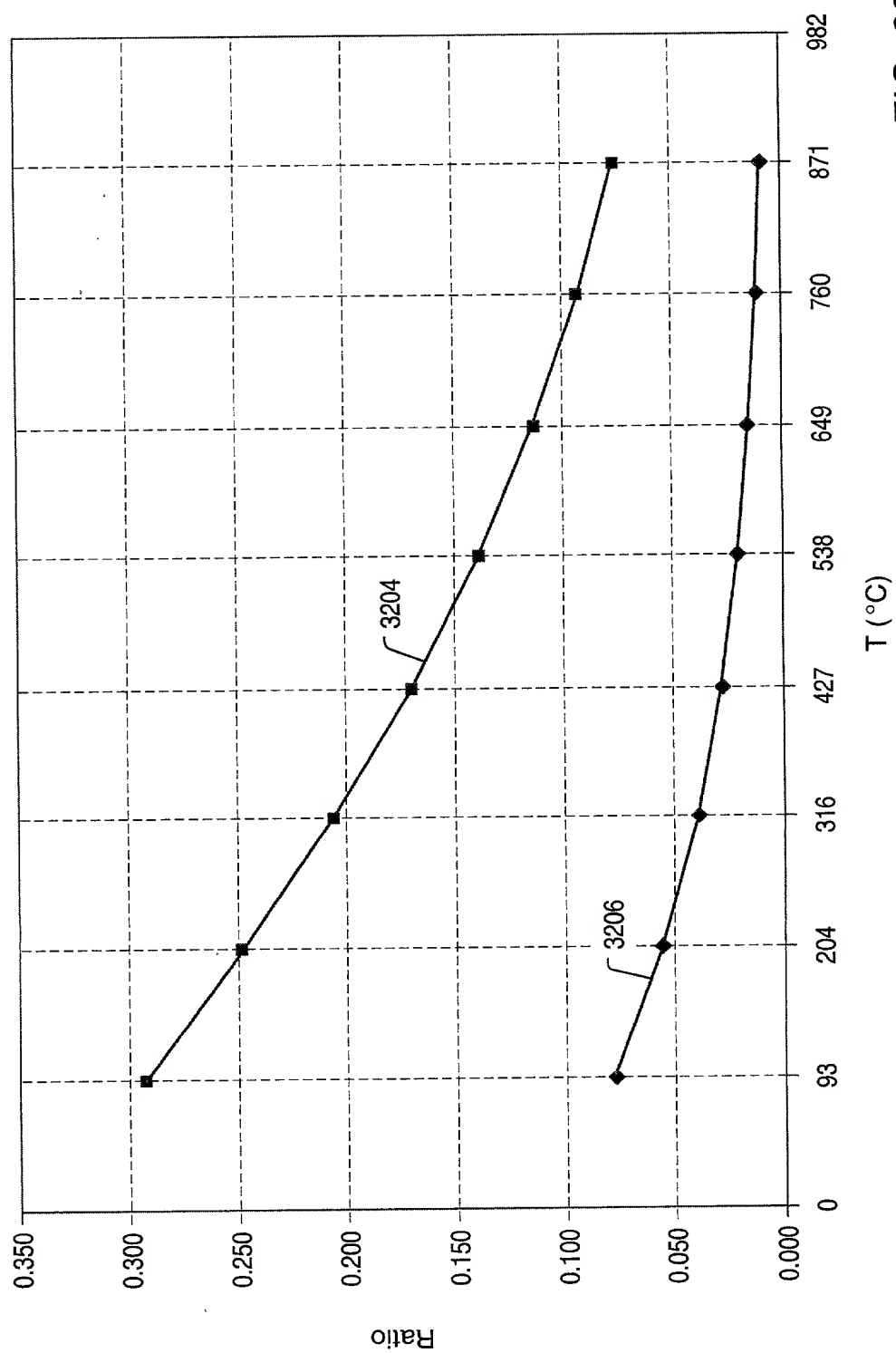


FIG. 83

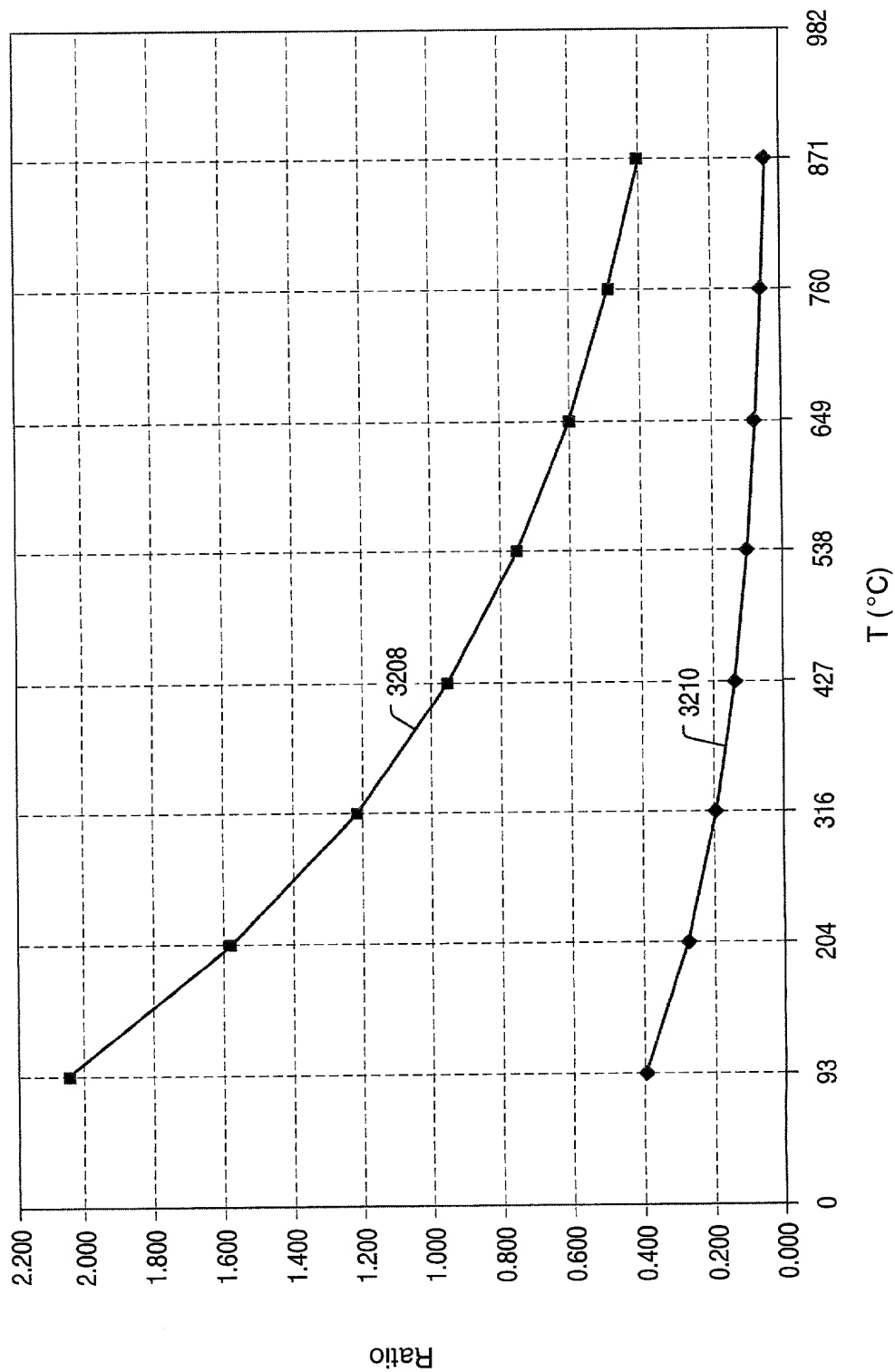


FIG. 84

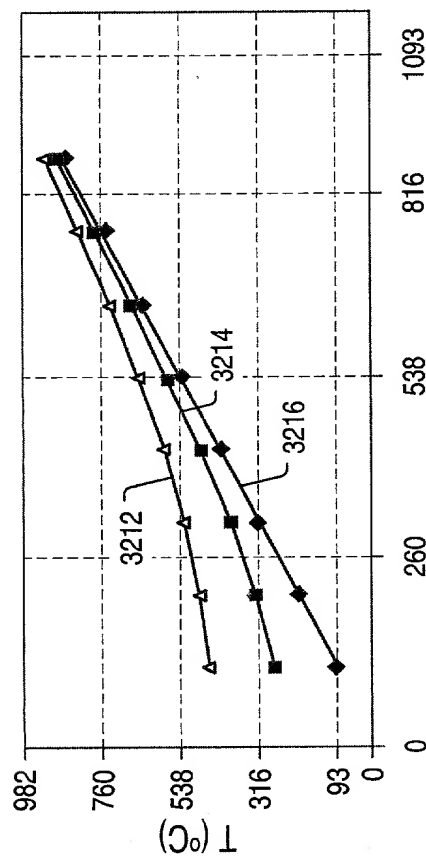


FIG. 85

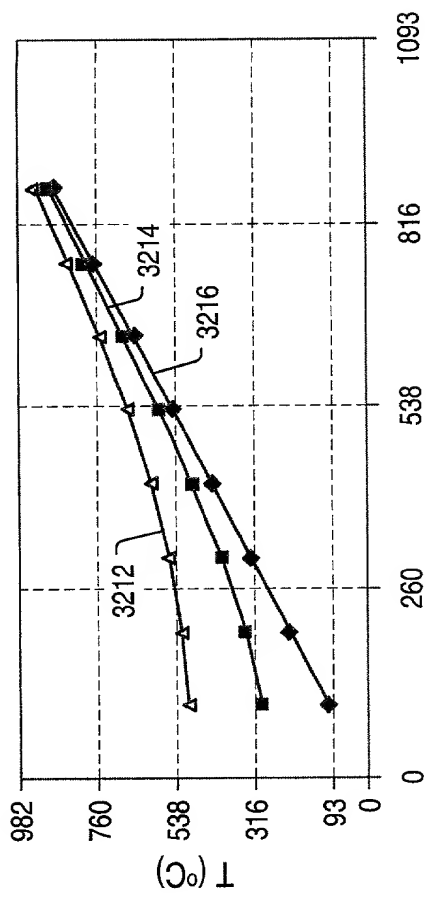


FIG. 86

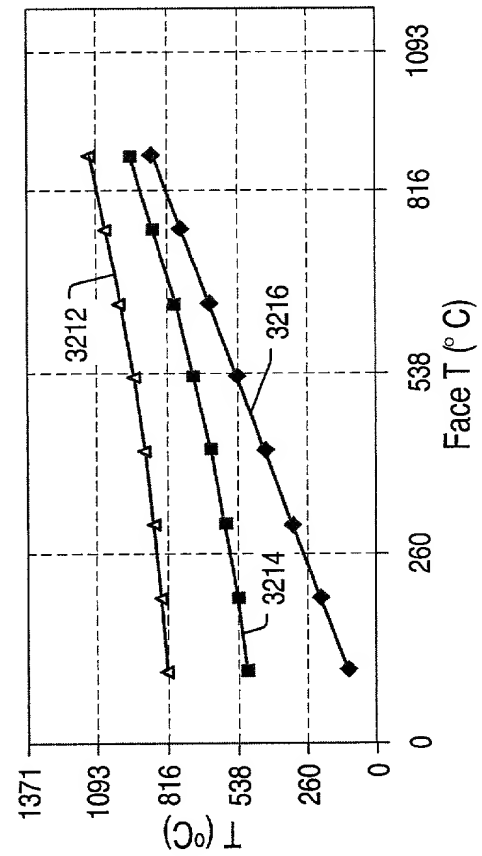


FIG. 87

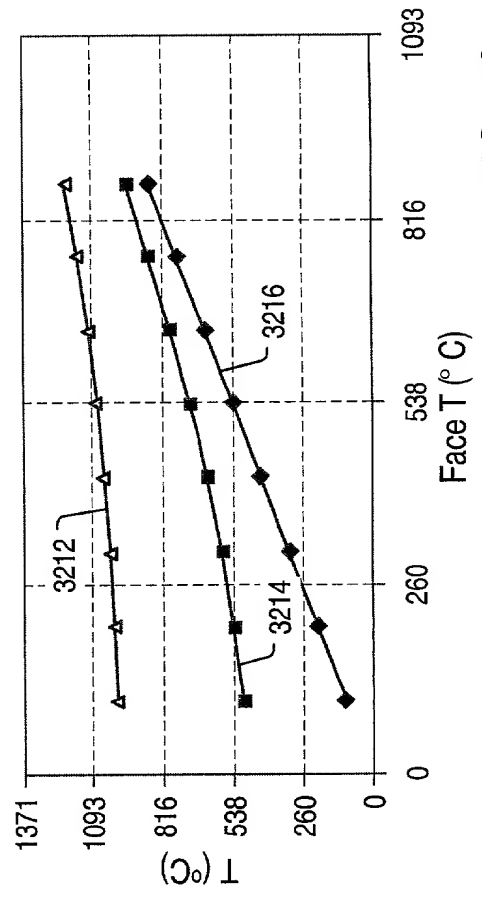


FIG. 88

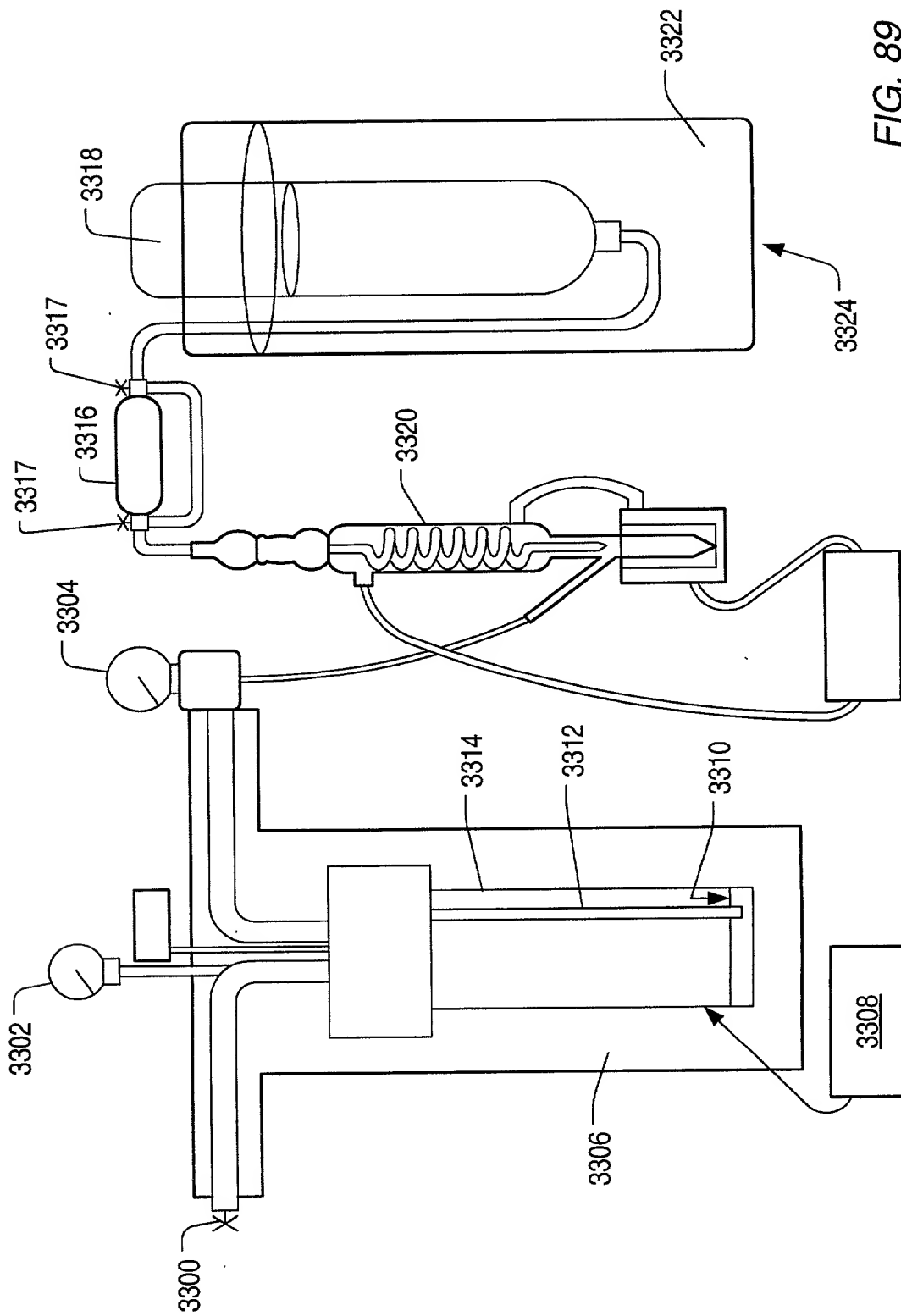


FIG. 89

FIG. 90

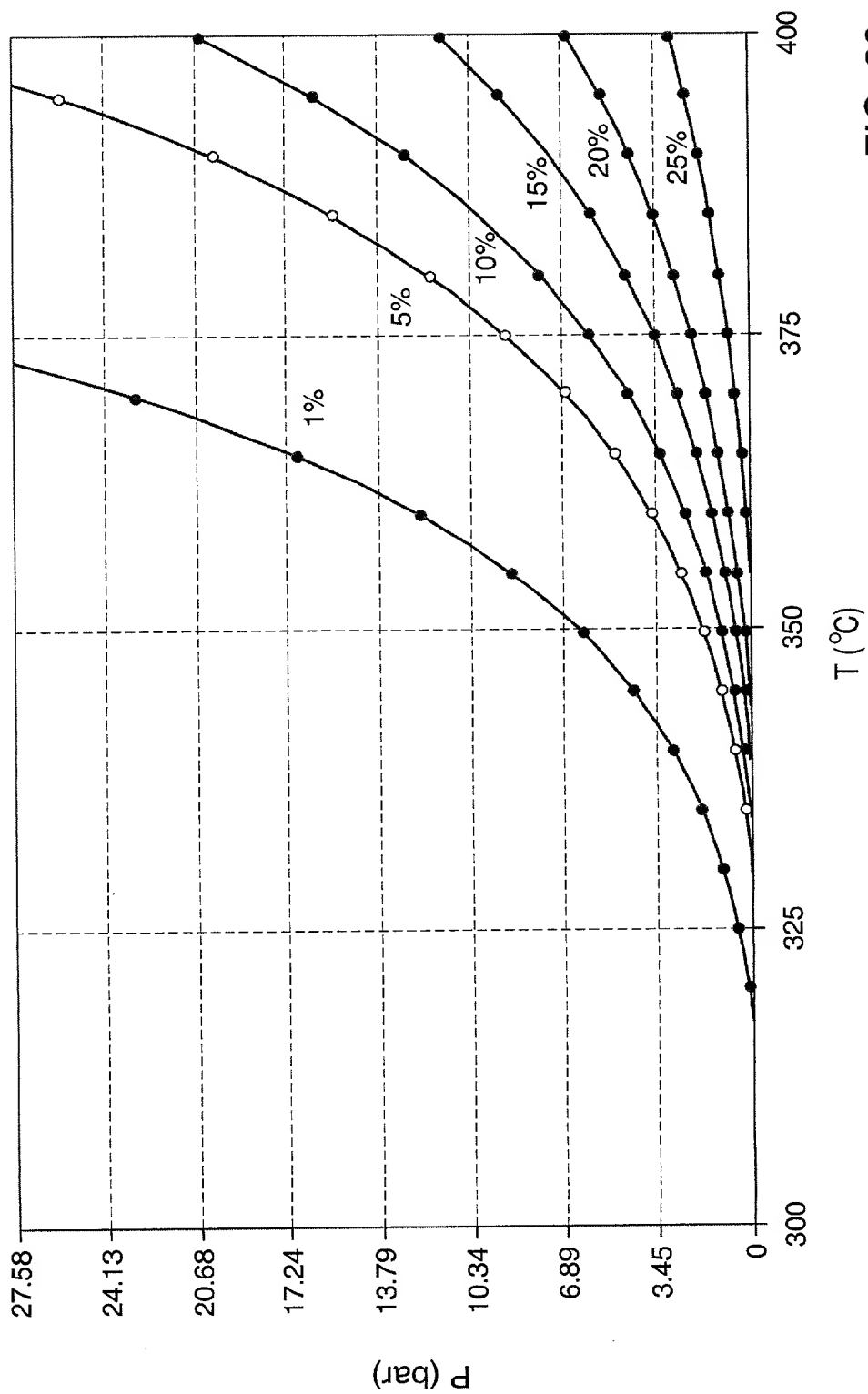


FIG. 90

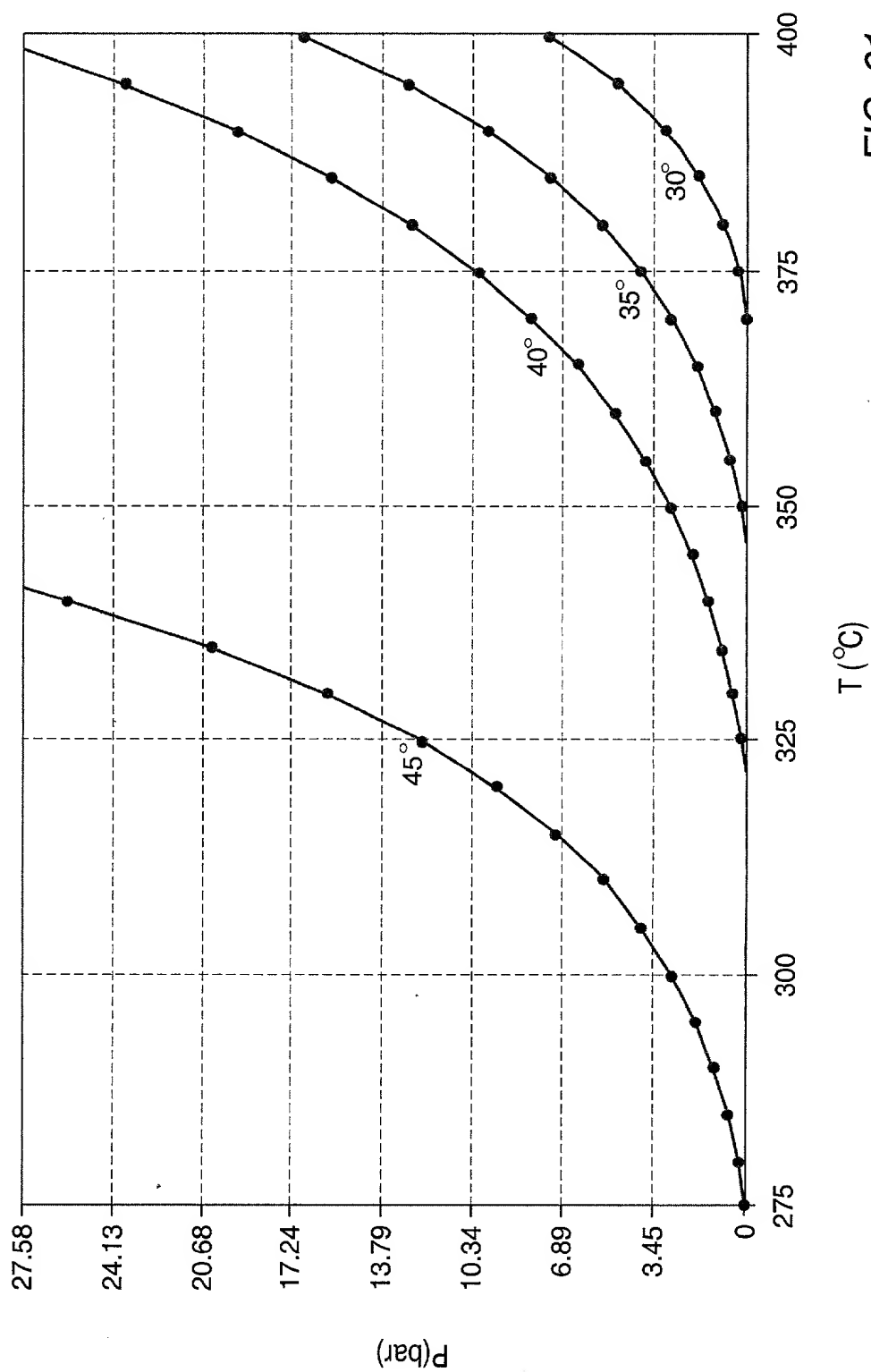


FIG. 91

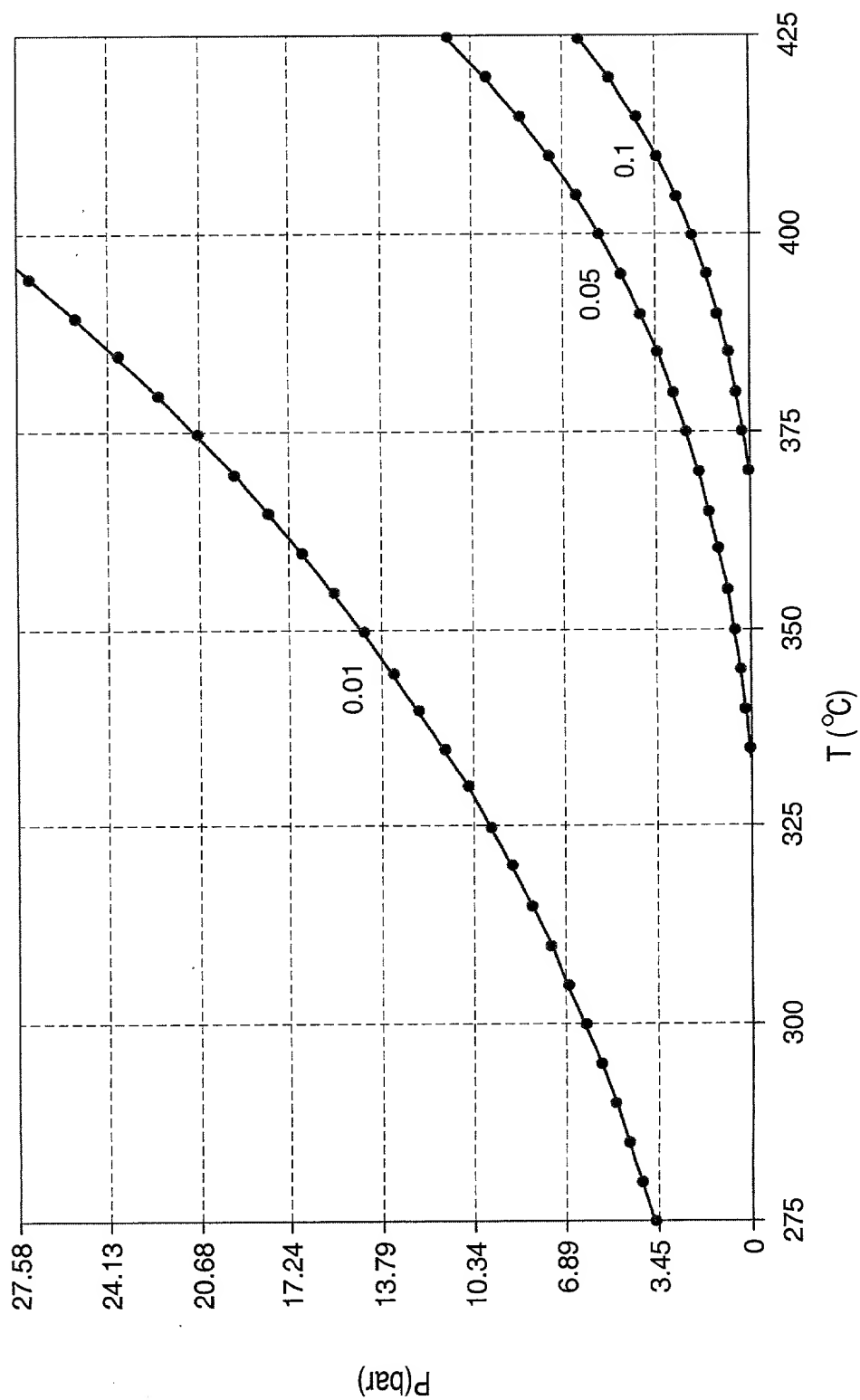


FIG. 92

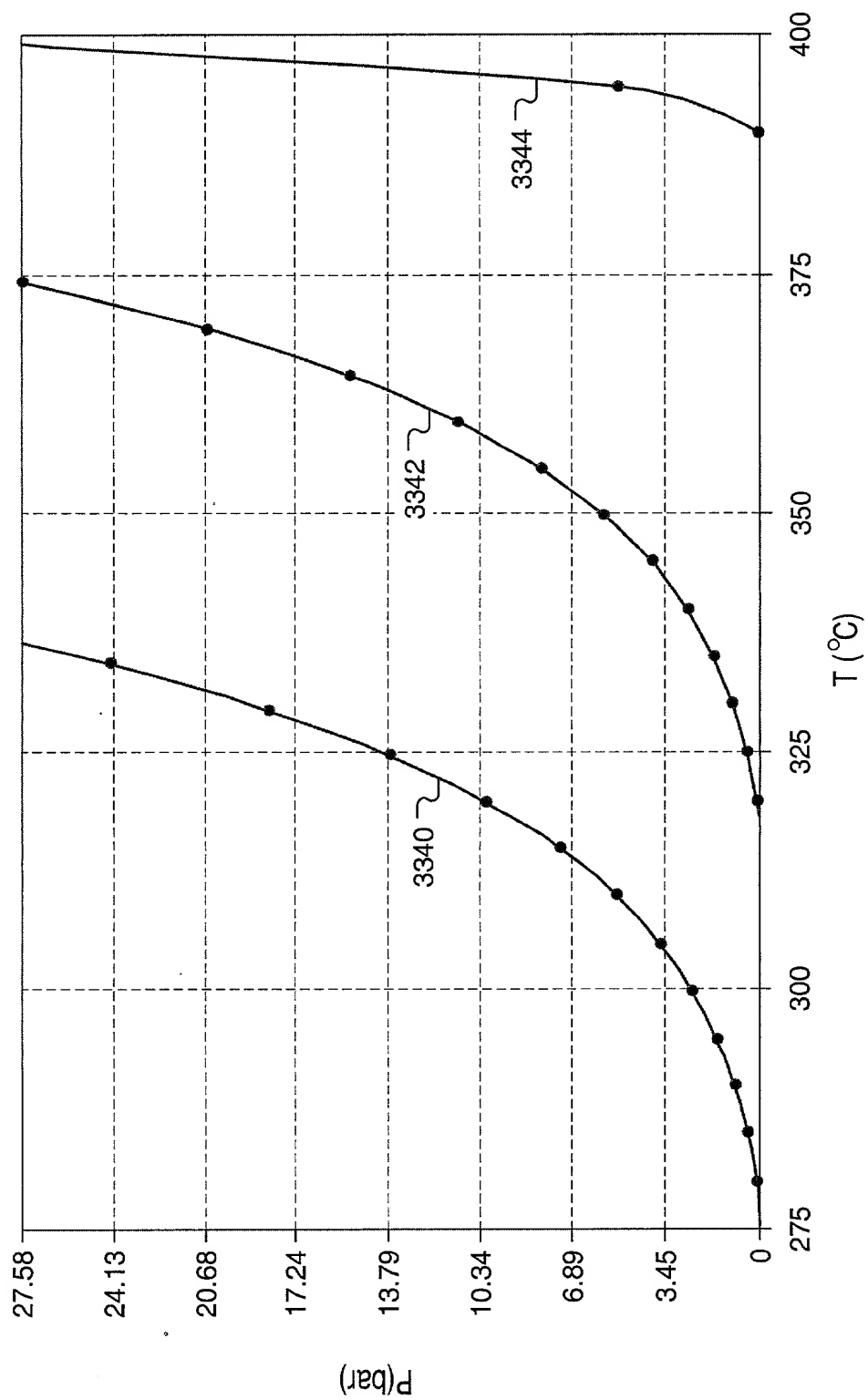


FIG. 93

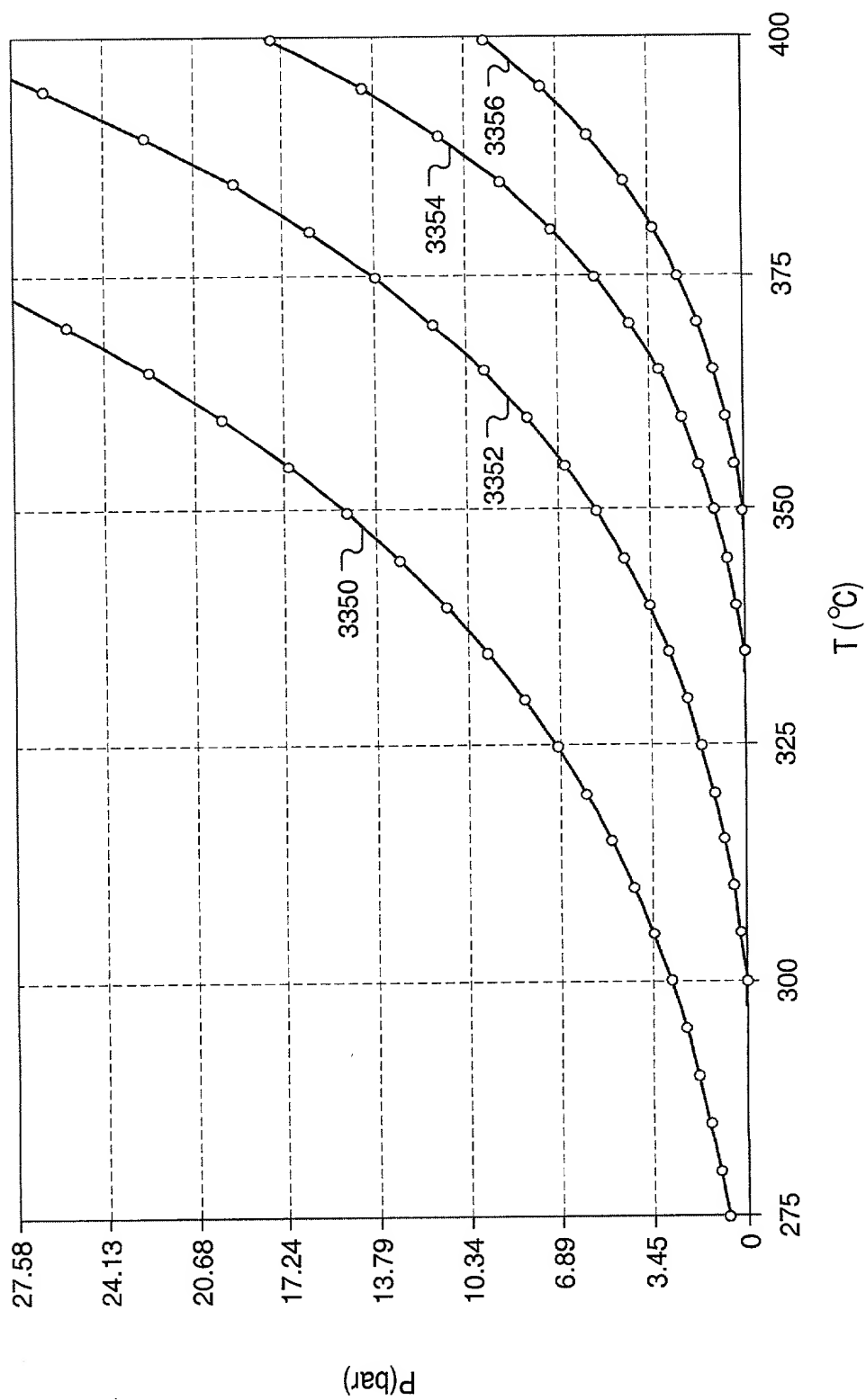


FIG. 94

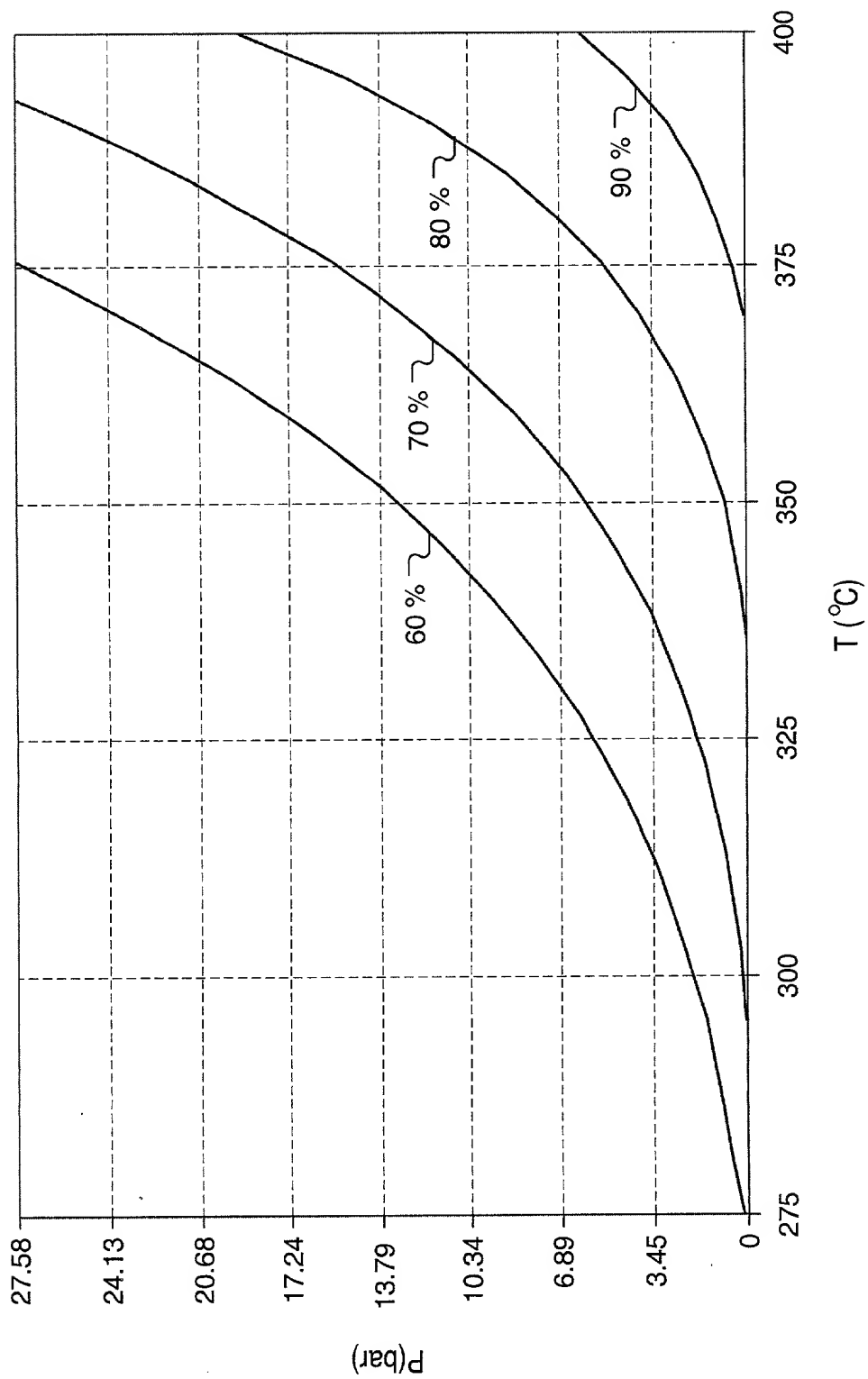


FIG. 95

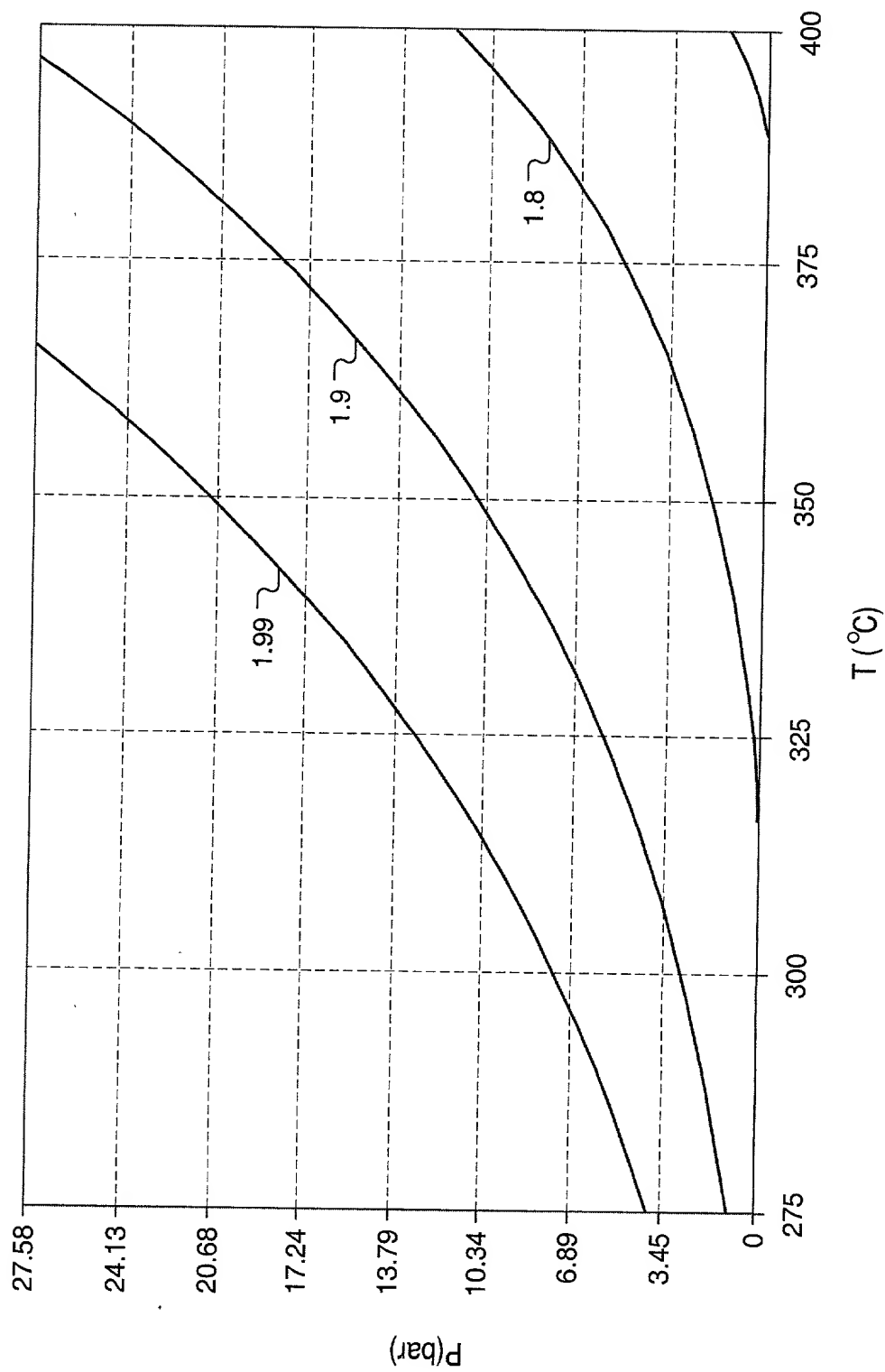


FIG. 96

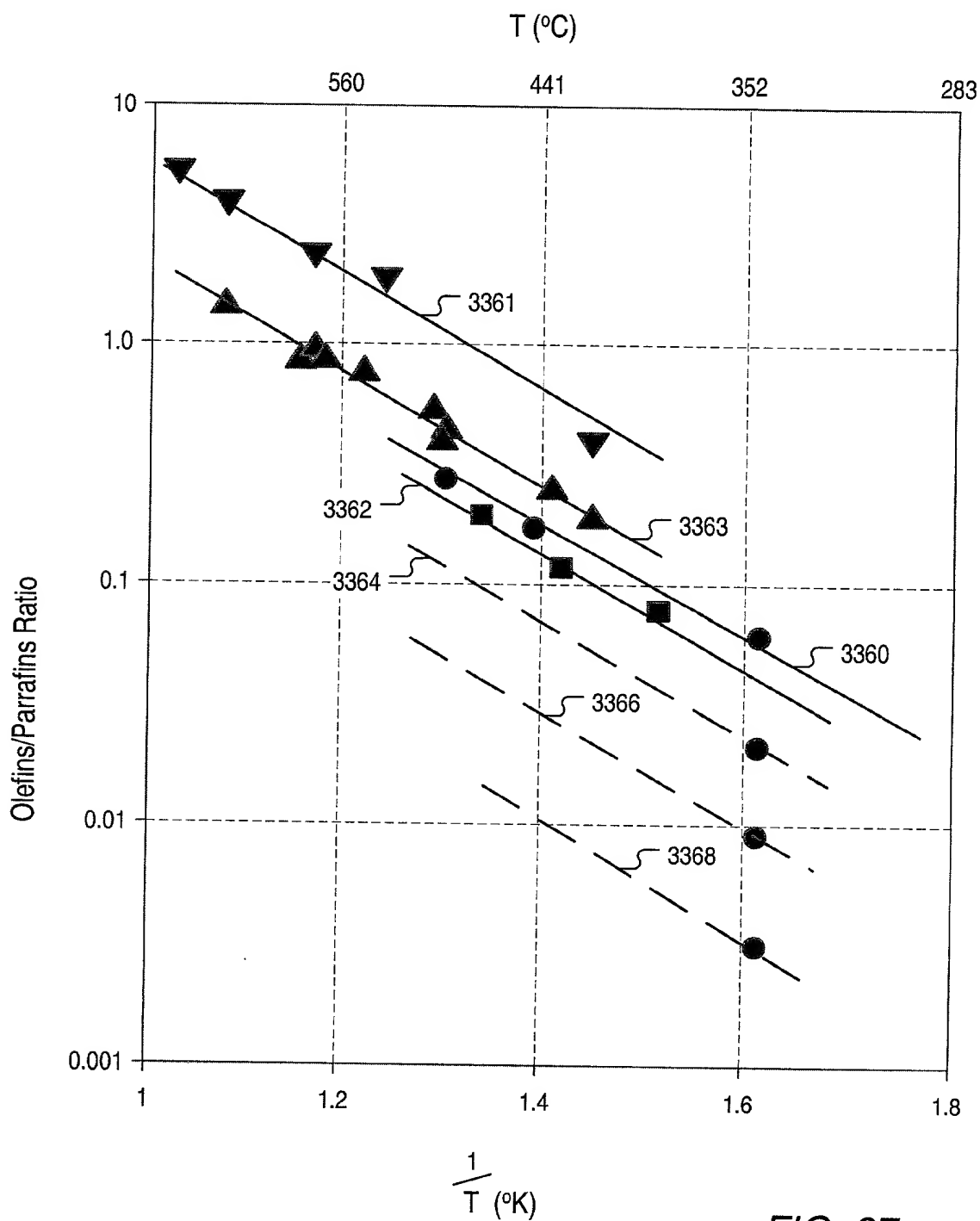


FIG. 97

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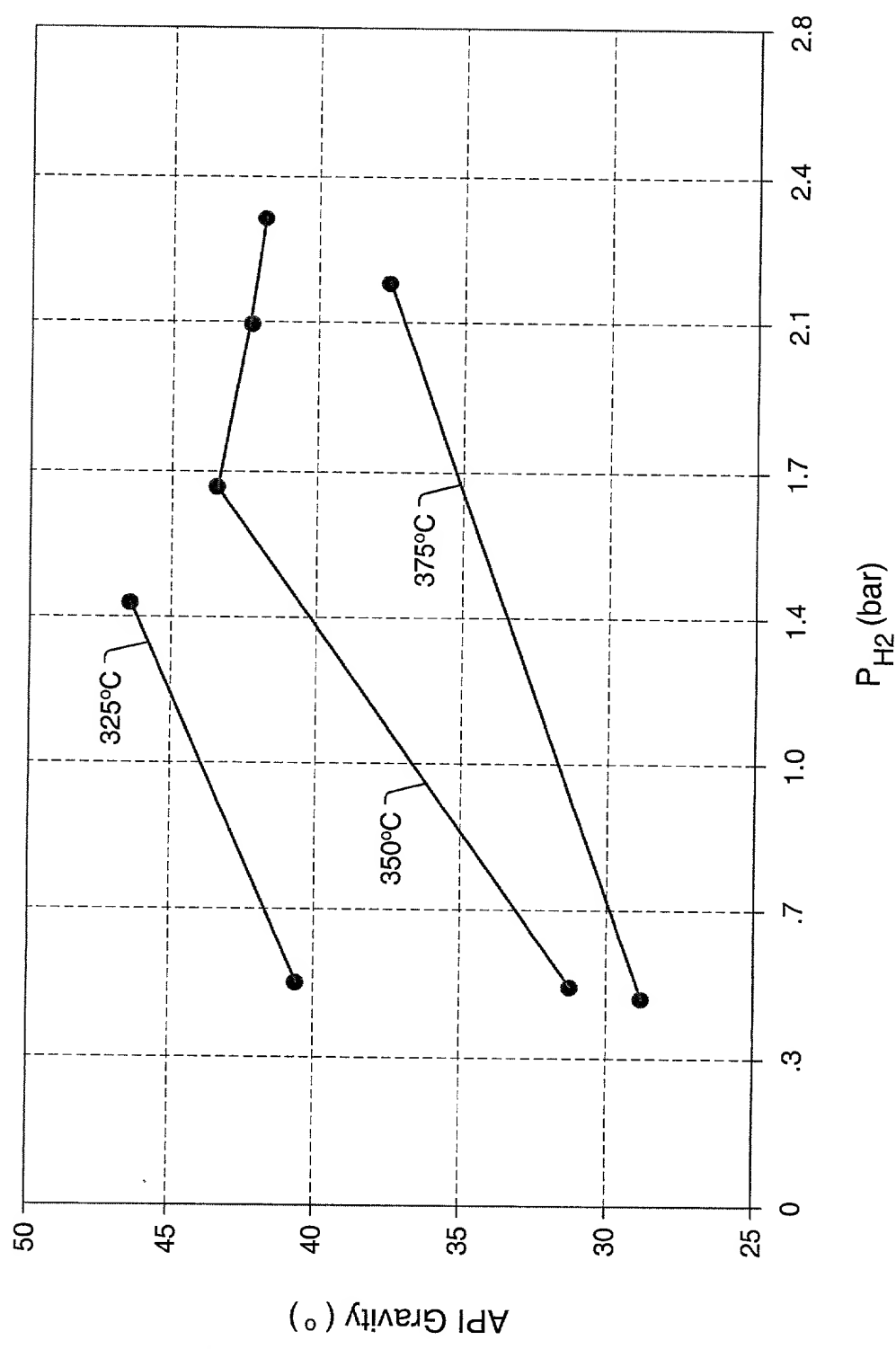


FIG. 98

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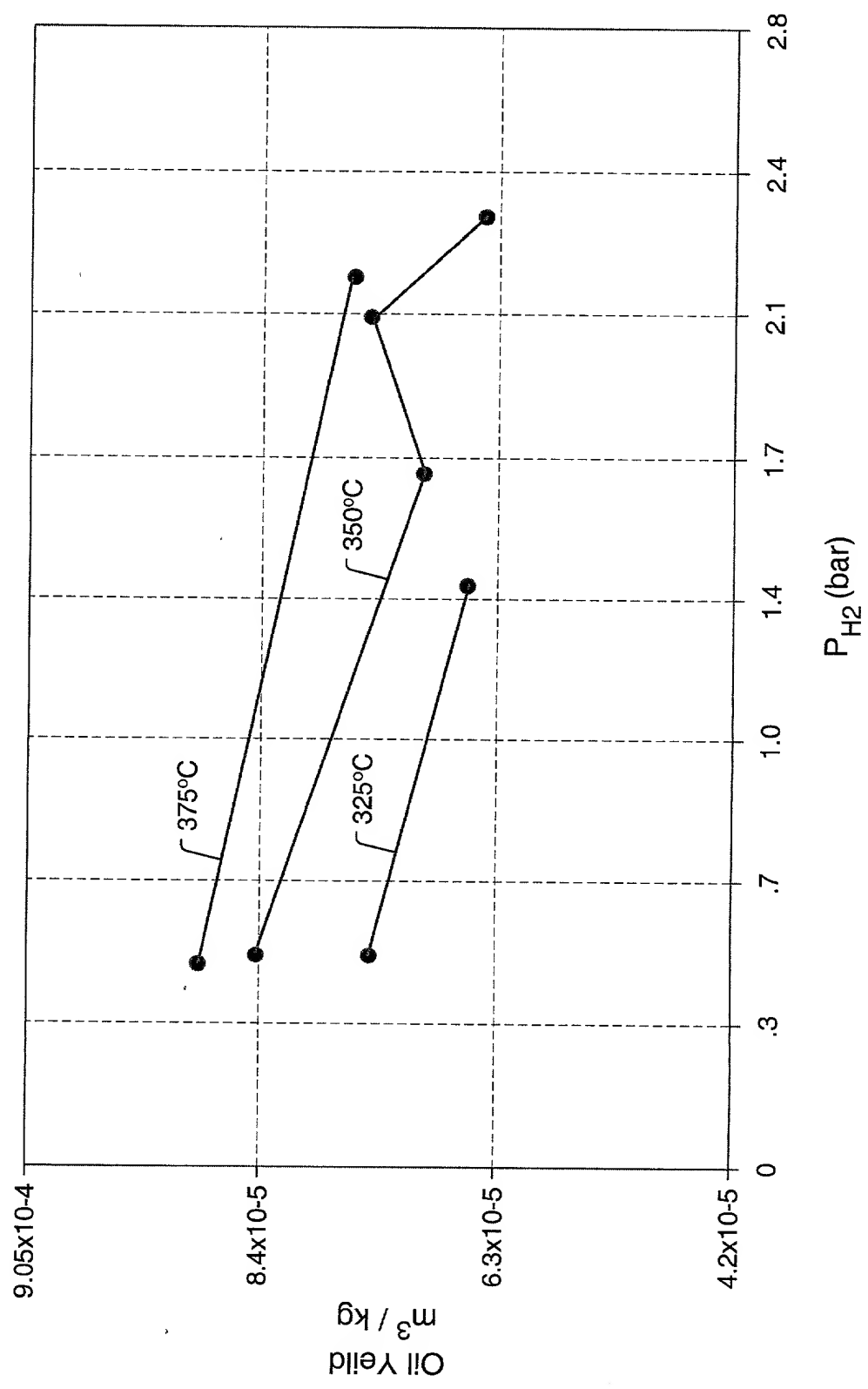


FIG. 99

FIG. 100

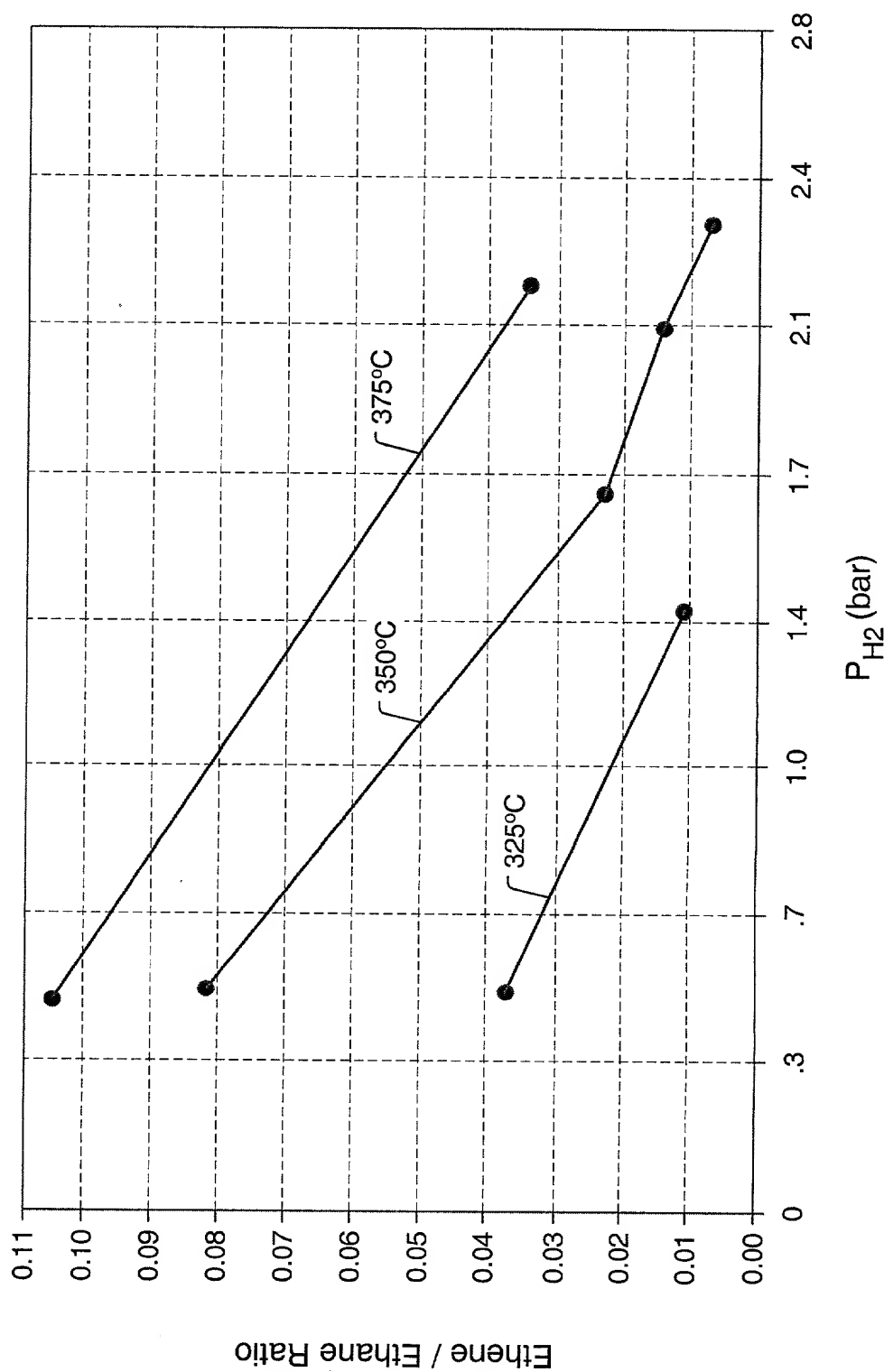


FIG. 100

FIG. 101 is a graph showing the relationship between the ratio of the number of carbon atoms to the number of hydrogen atoms (C/H) and the pressure of hydrogen gas (P_{H2}) in bar. The graph shows three curves for different temperatures: 325°C, 350°C, and 375°C. The C/H ratio increases as P_{H2} increases, and the curves shift to higher C/H ratios as temperature increases.

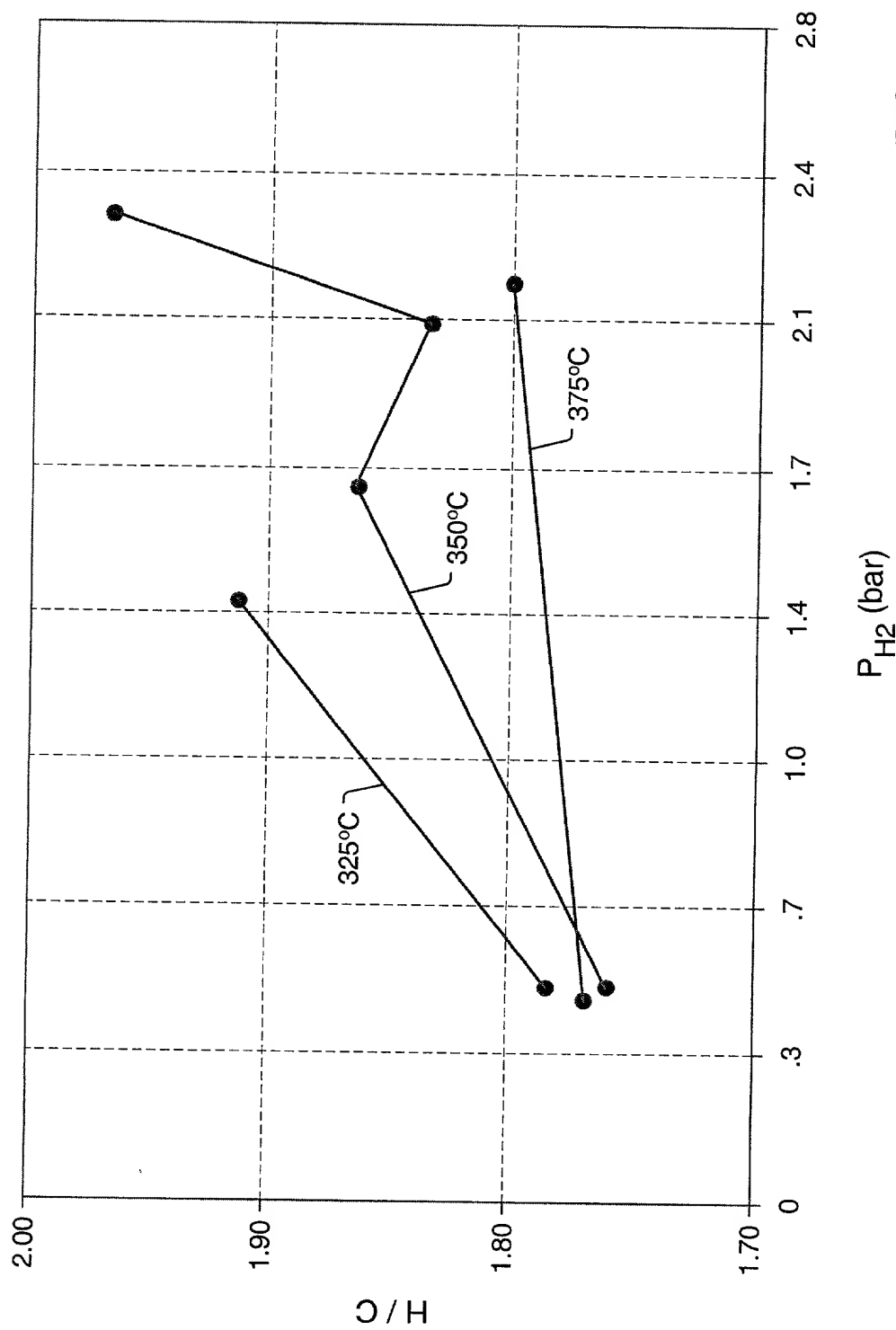


FIG. 101

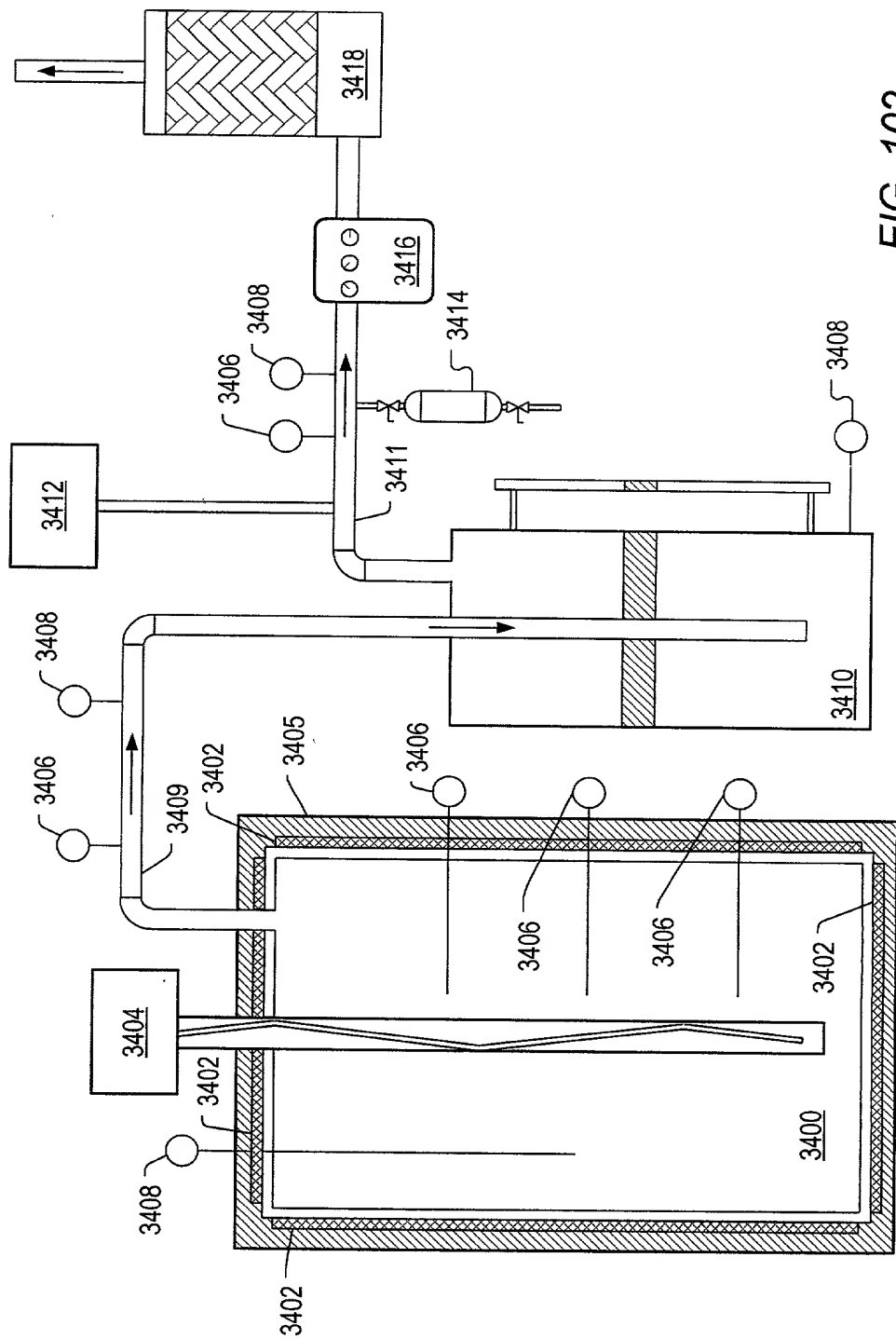


FIG. 102

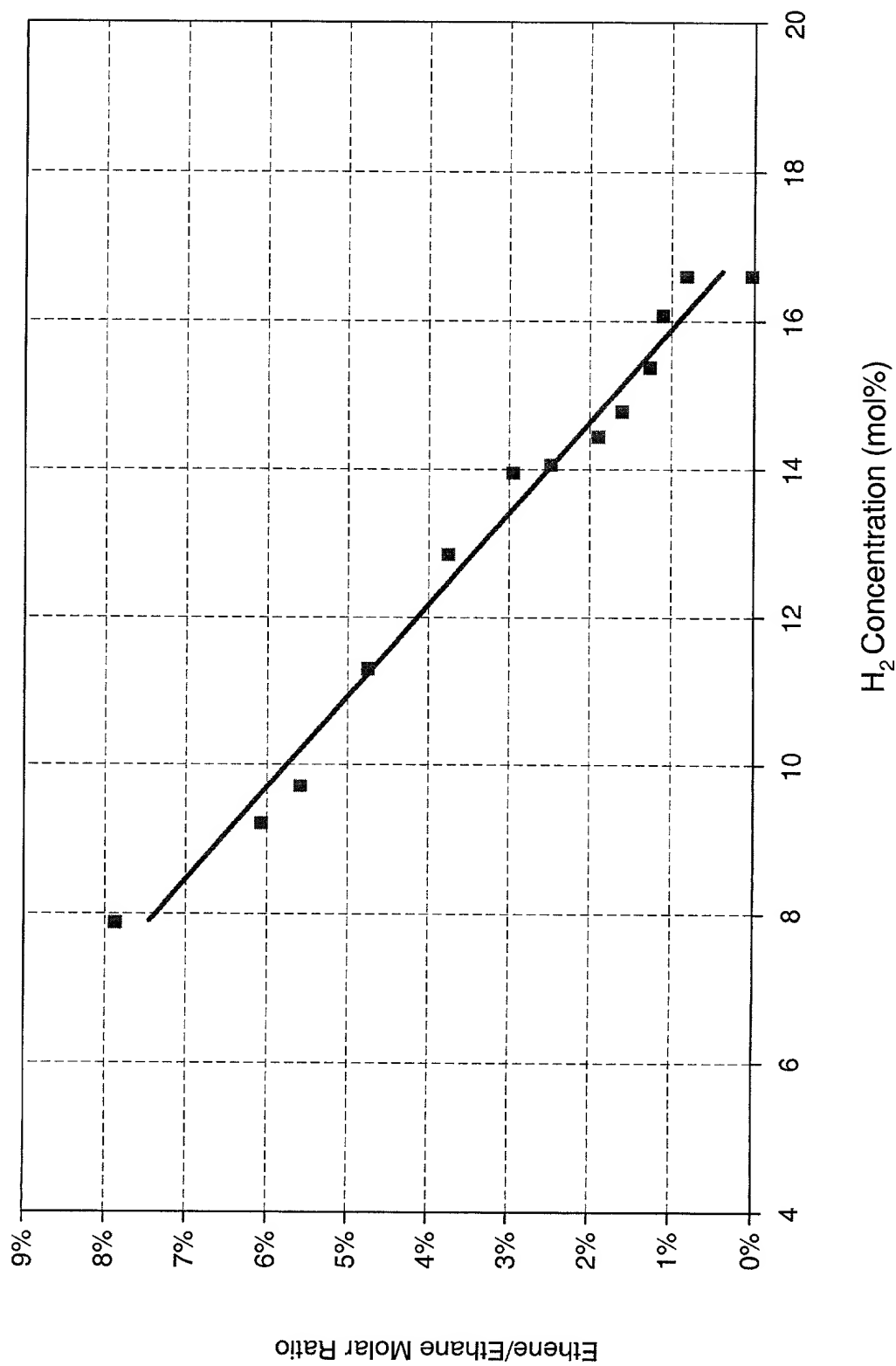
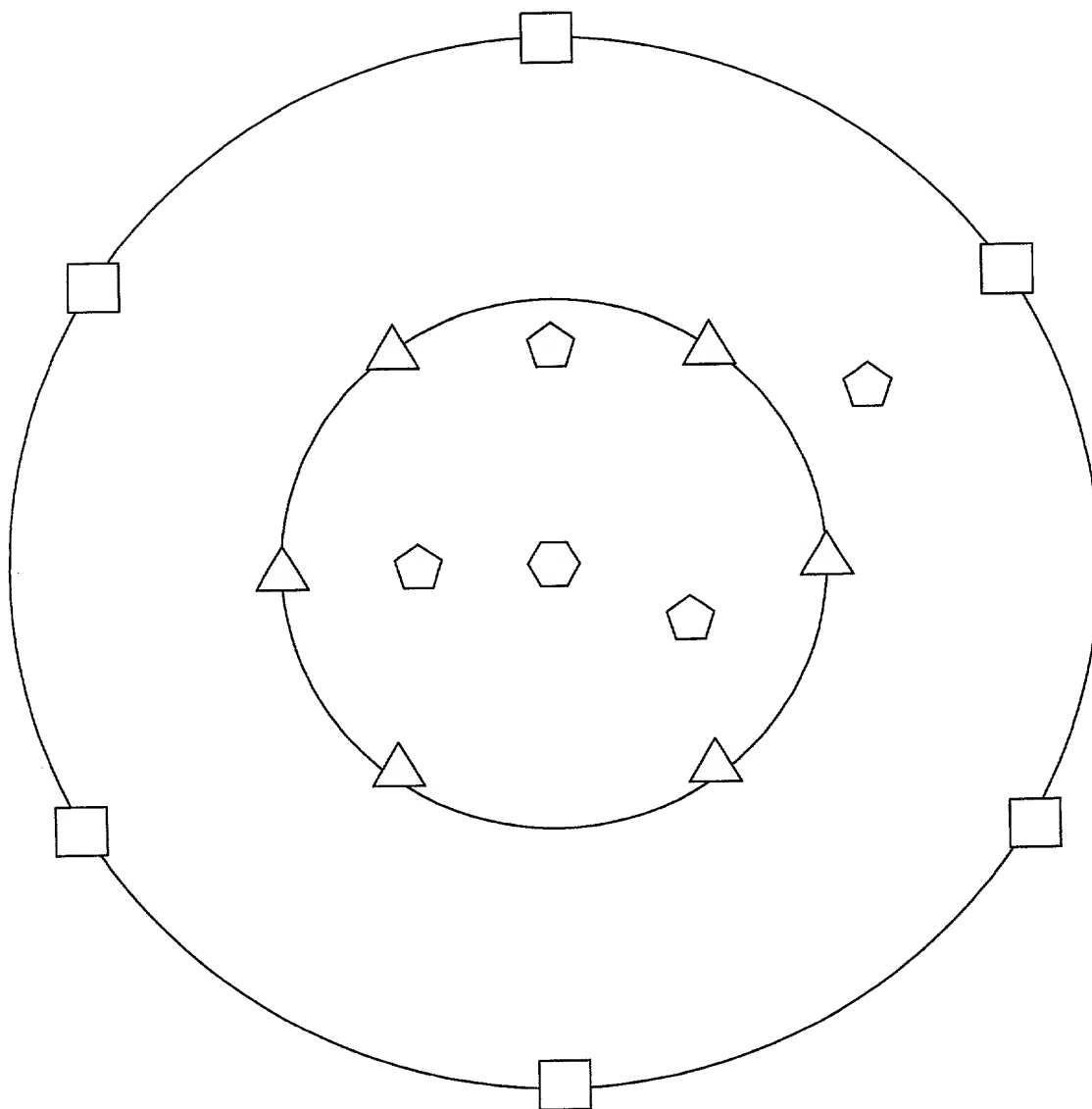


FIG. 103



△ - 3600

⬠ - 3603

□ - 3604

⬡ - 3602

FIG. 104

FIG. 105 is a cross-sectional view of a device 3600, showing a substrate 3602 with a layer 3610, a layer 3612, and a layer 3614. A layer 3604 is also shown, and a layer 3606 is shown below it. A layer 3614 is also shown at the bottom.

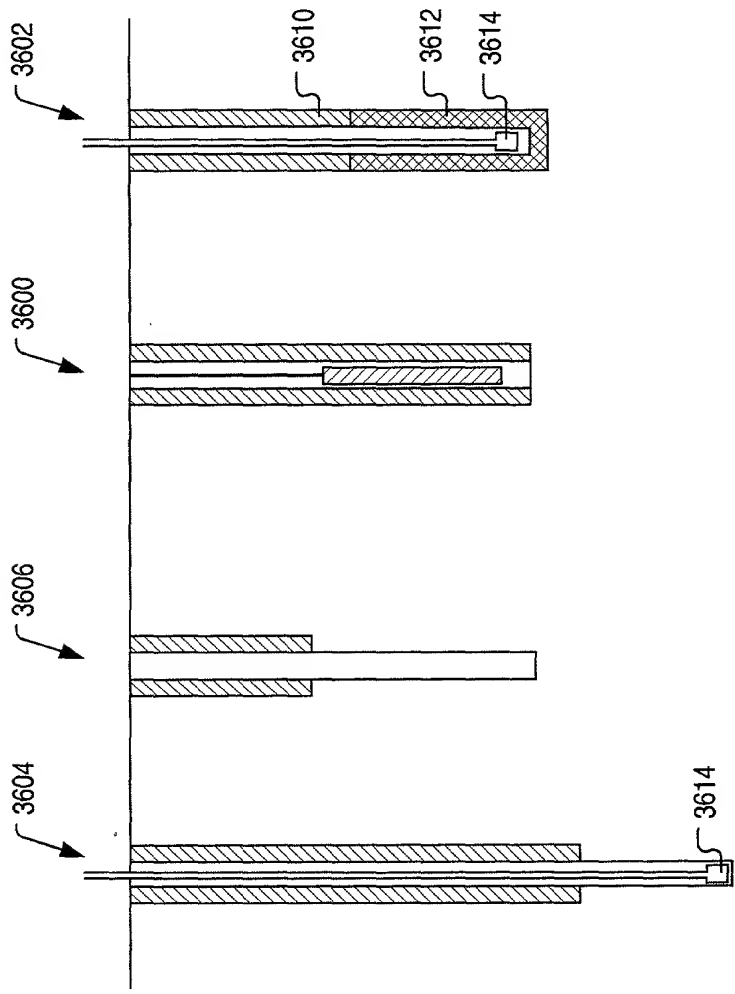


FIG. 105

FIG. 106

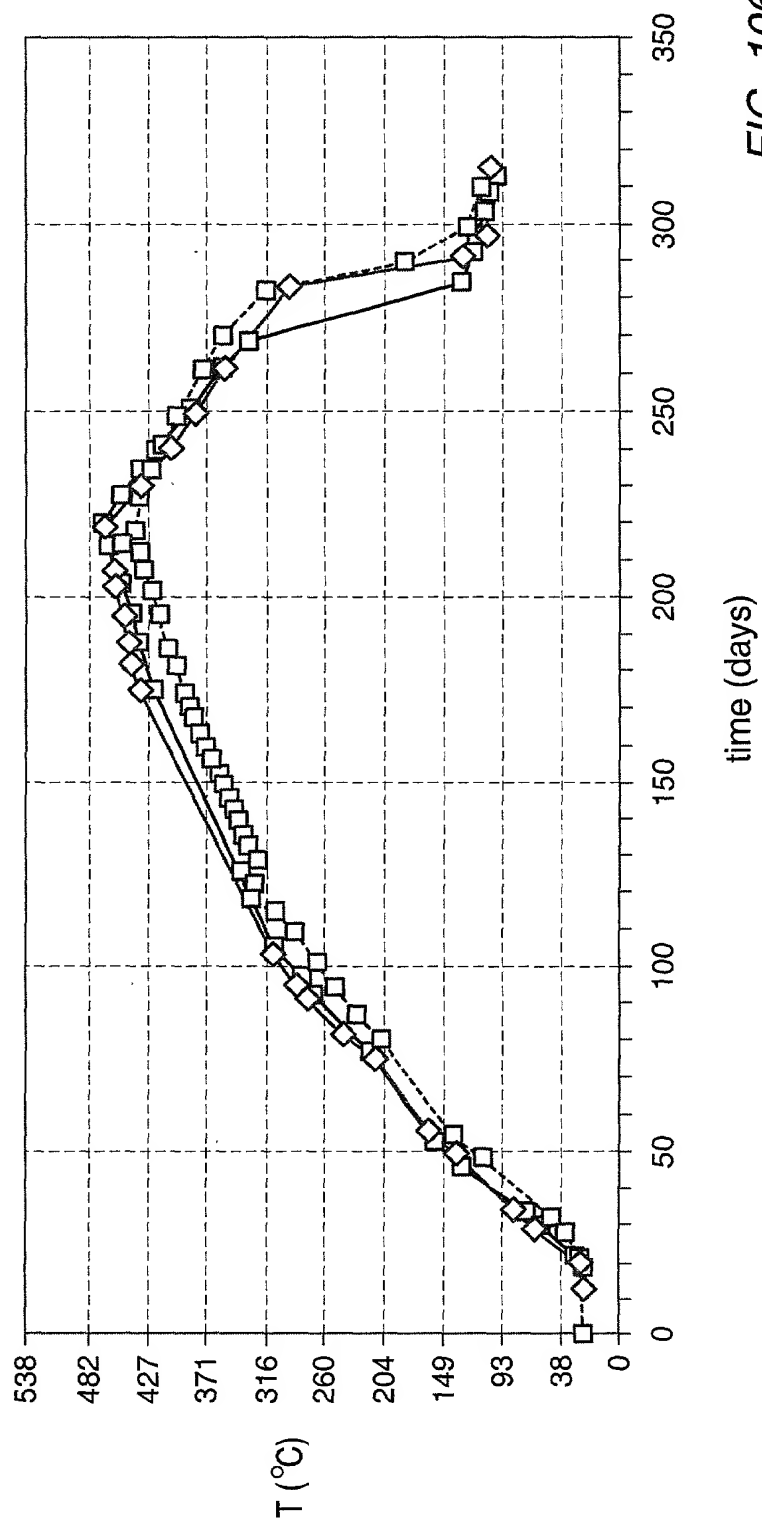


FIG. 106

FIG. 107 is a graph showing the variation of pressure (bar) with time (days) for a system. The graph displays two curves, one labeled 24m and the other 33m, representing different depths or conditions. The pressure starts at approximately 1.4 bar at day 0, rises to a peak of about 9.7 bar around day 100, and then gradually decreases towards 0 bar by day 350. The 24m curve shows a sharp peak around day 100, while the 33m curve shows a broader peak around day 150.

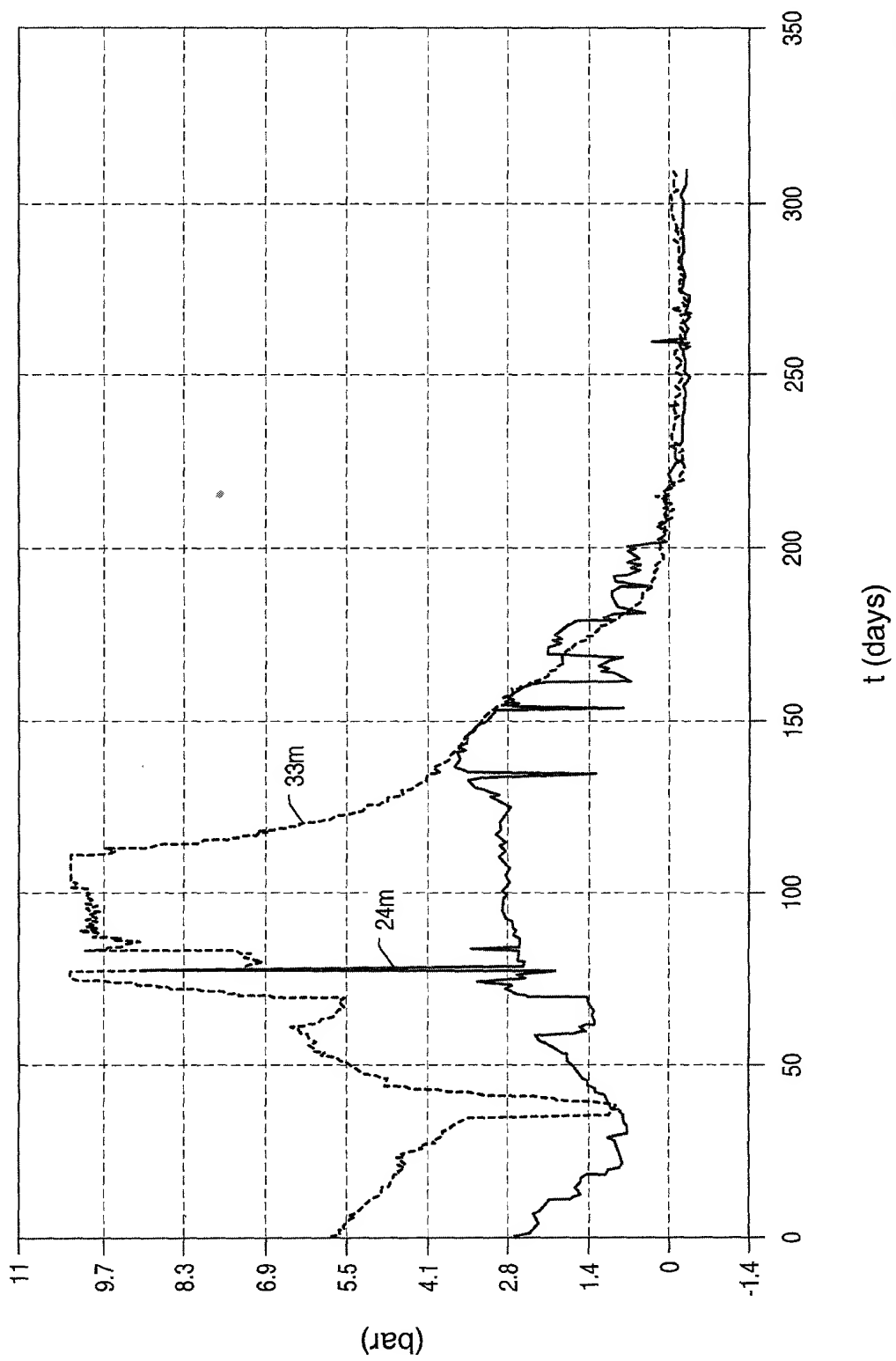


FIG. 107

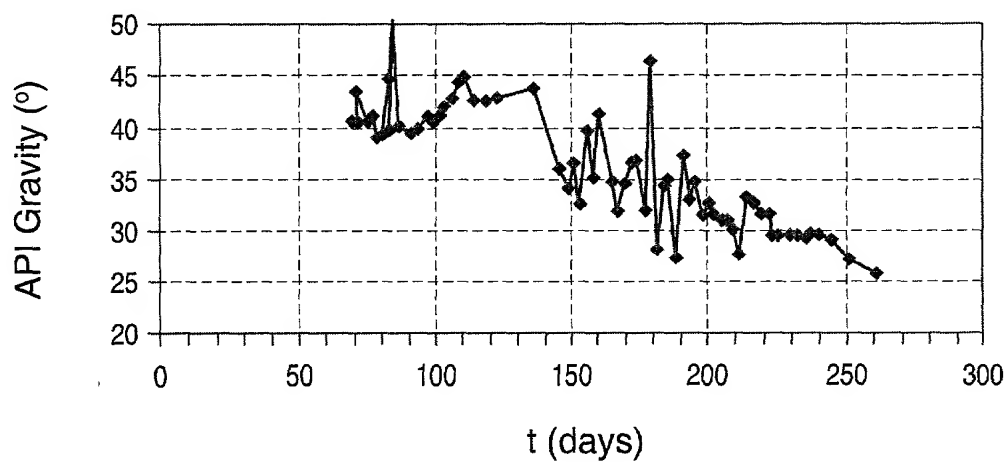


FIG. 108

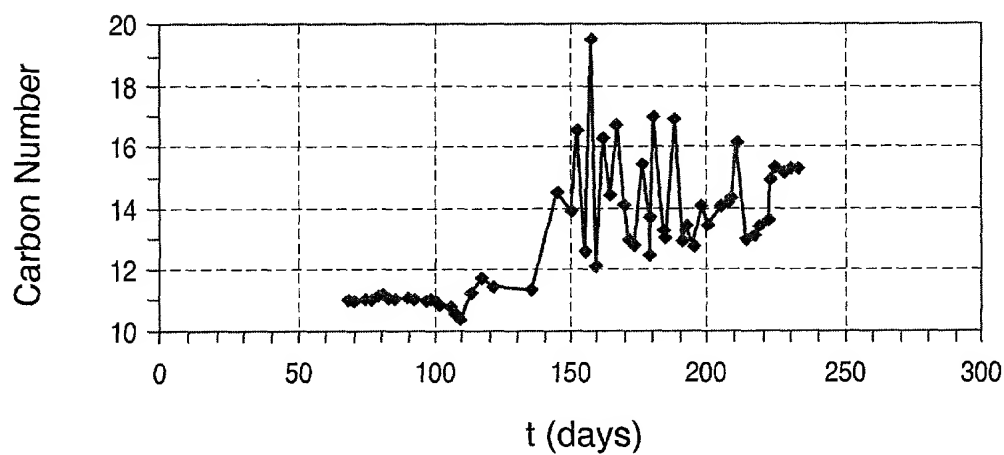


FIG. 109

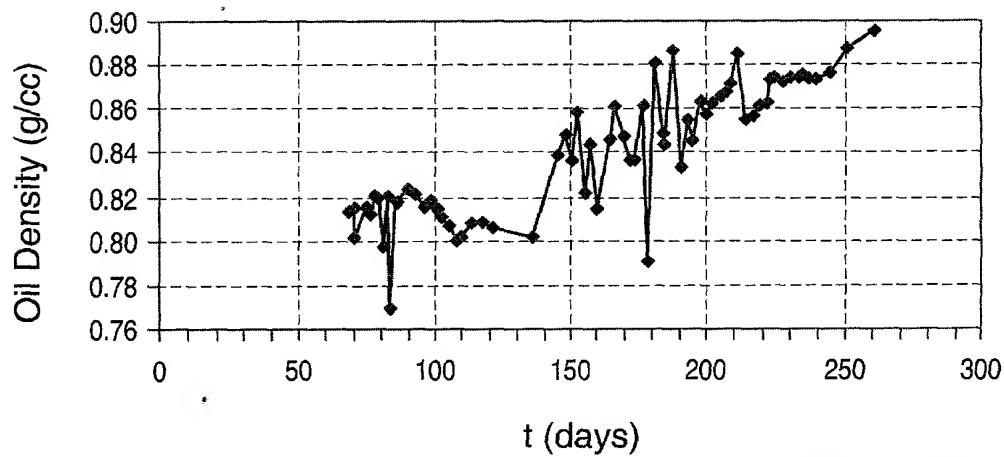


FIG. 110

Small text block, likely a page header or reference, containing several lines of illegible text.

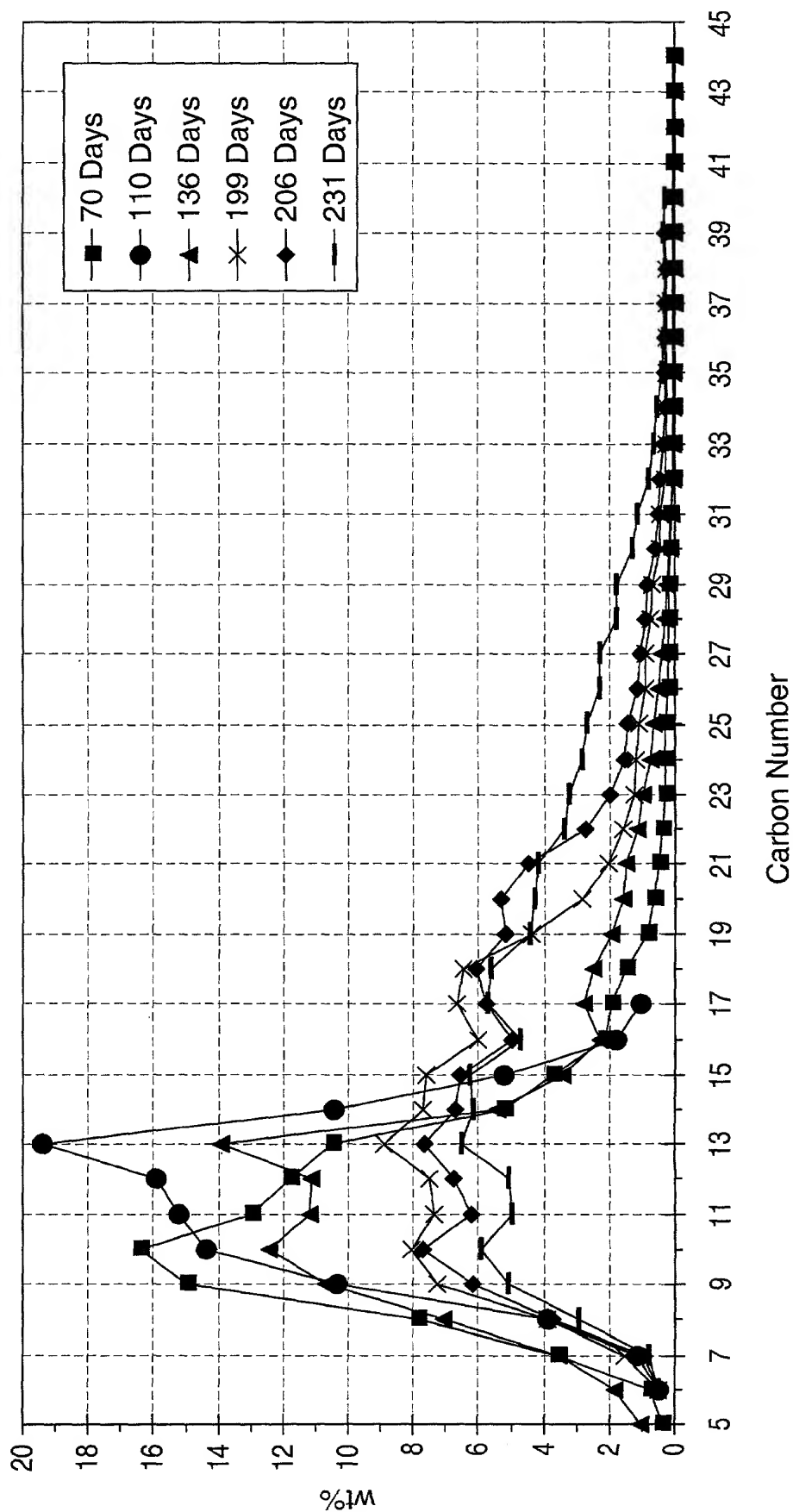


FIG. 111

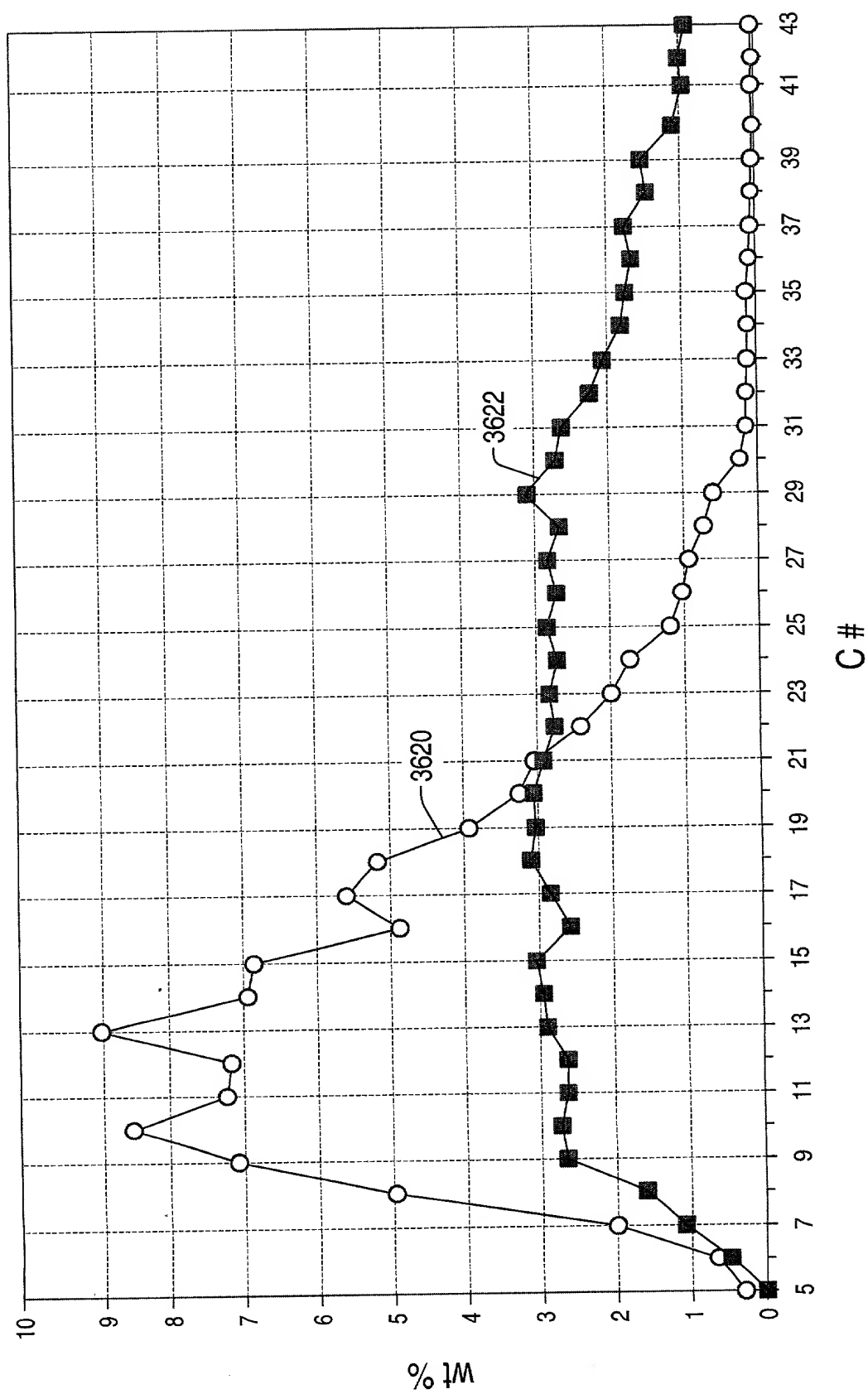


FIG. 112

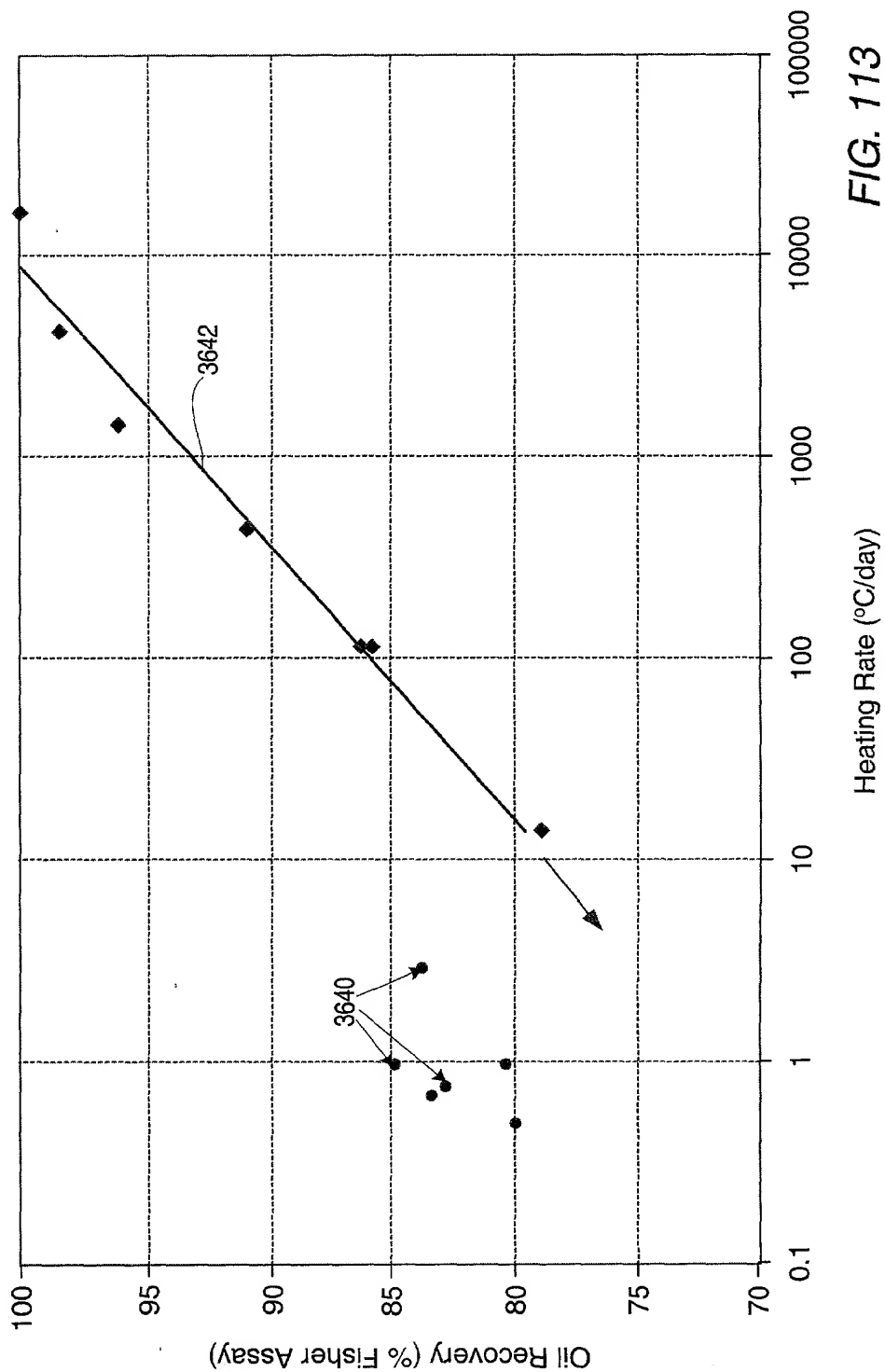


FIG. 113

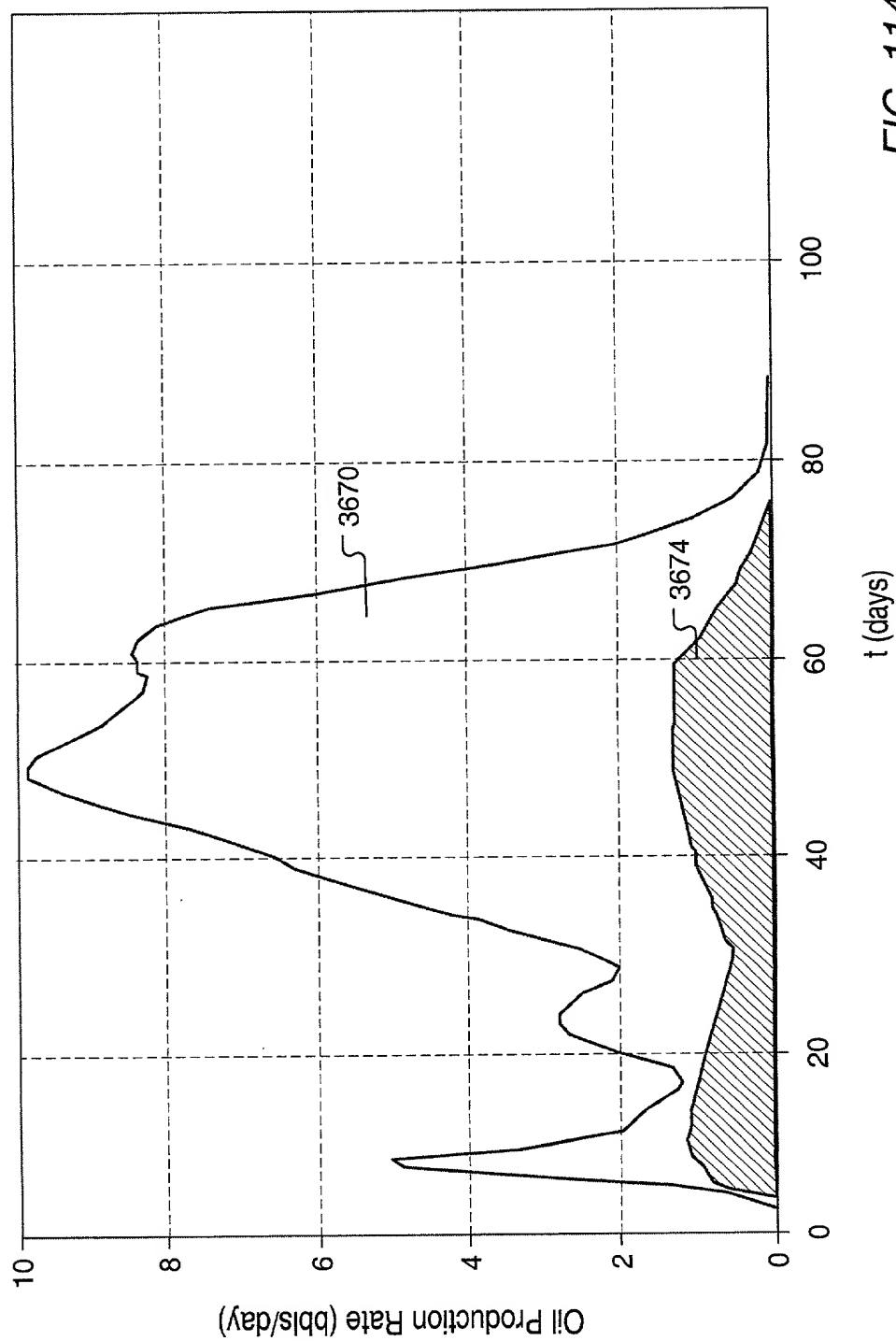
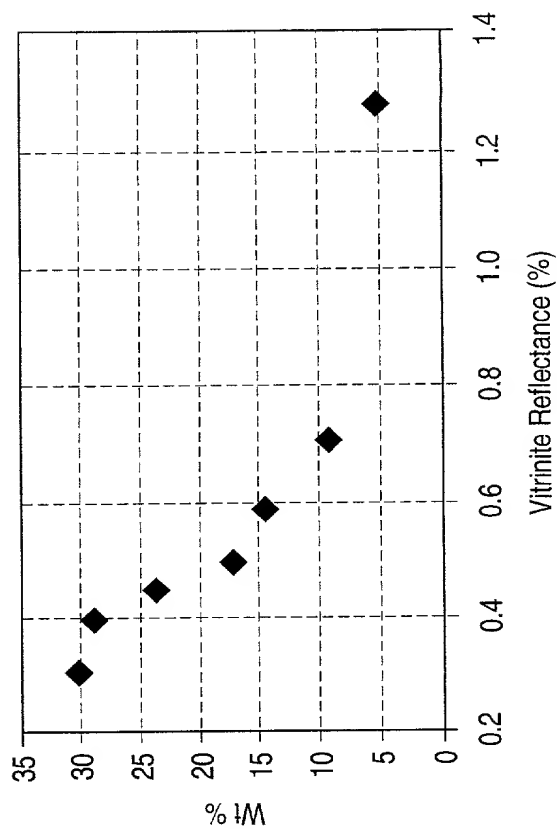
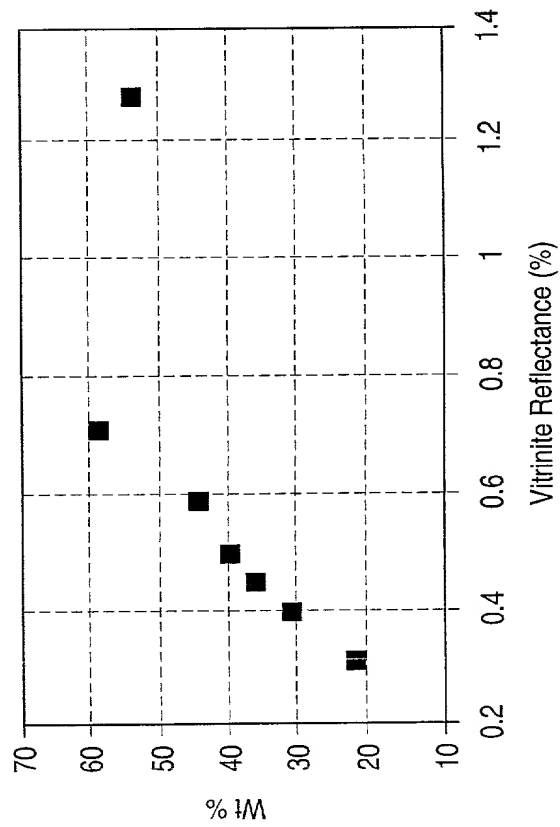
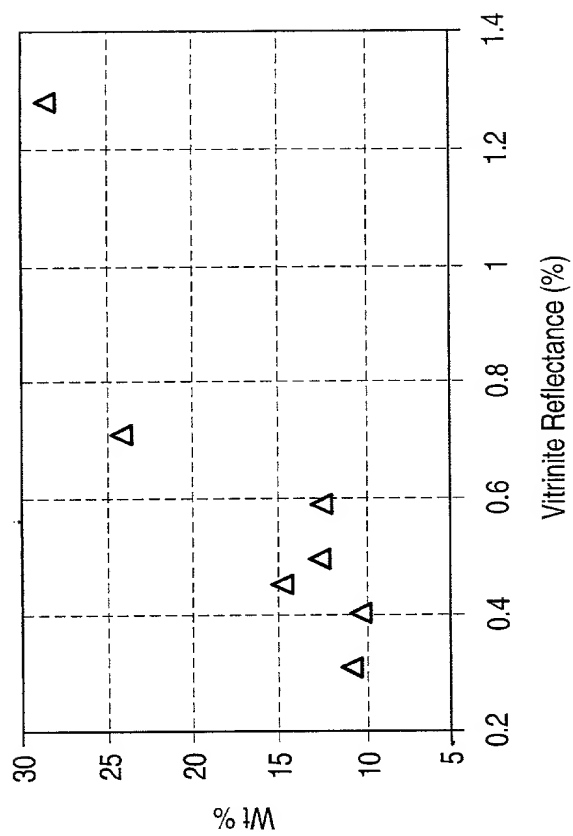
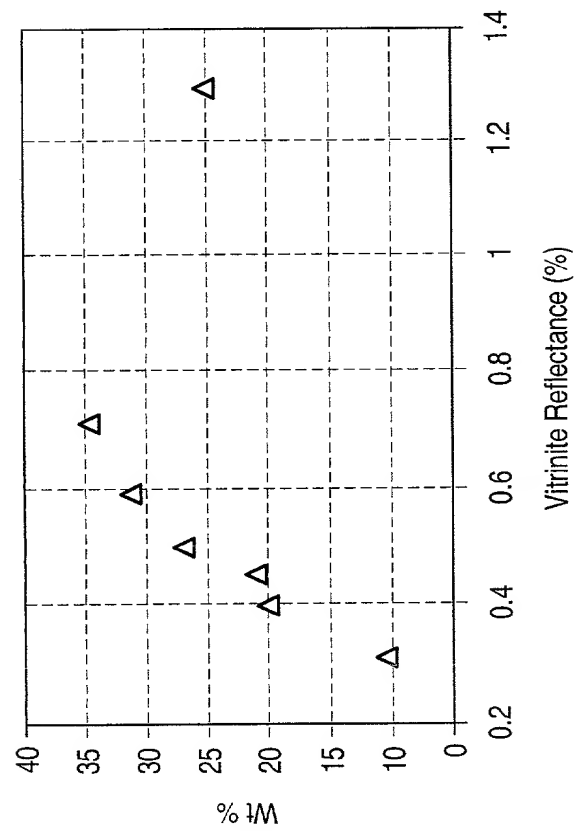


FIG. 114



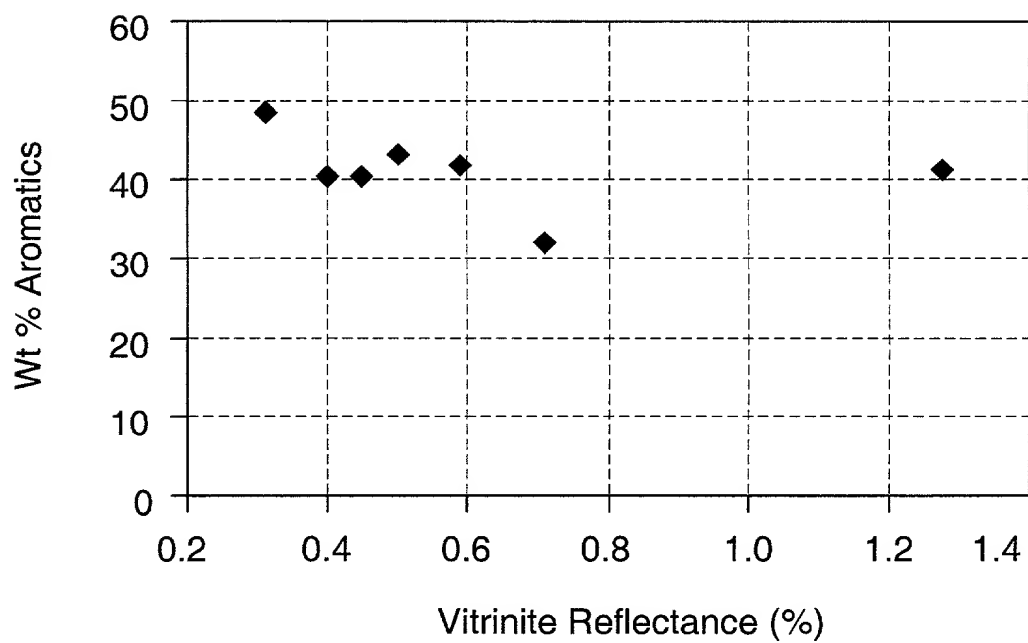


FIG. 119

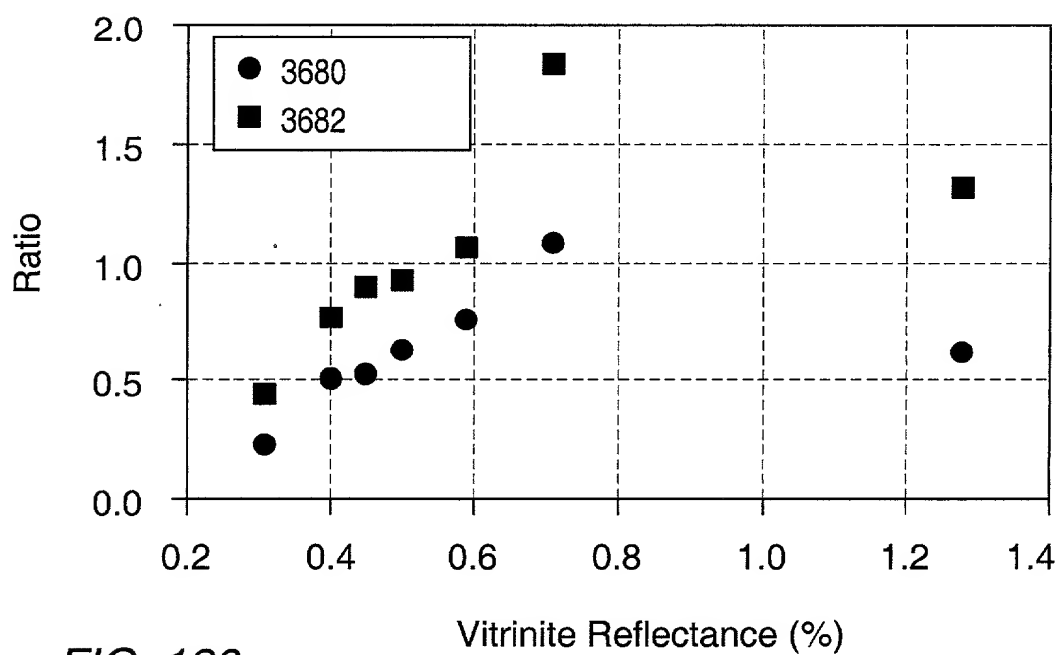
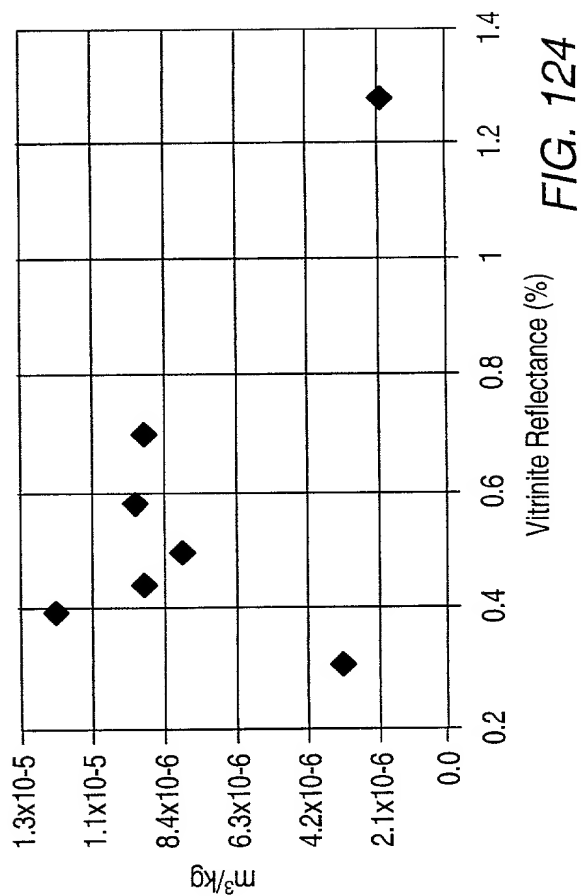
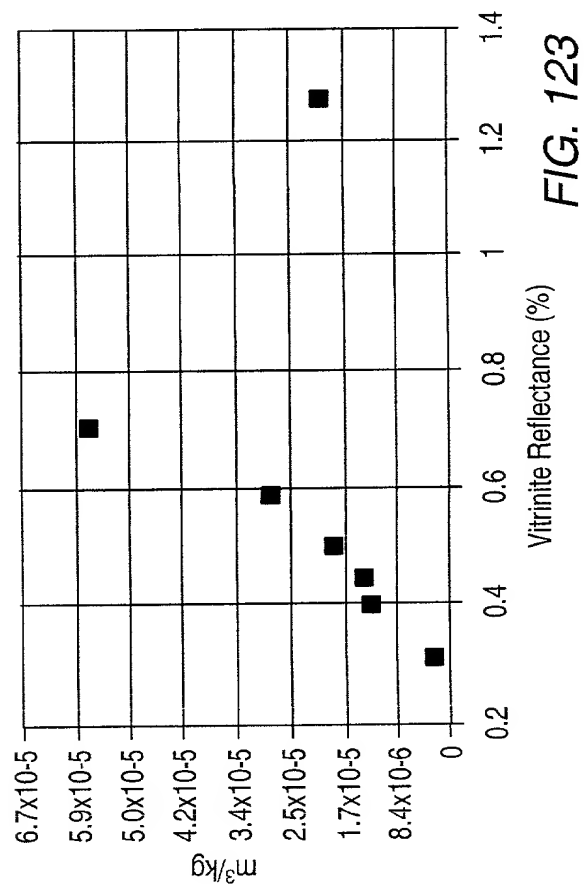
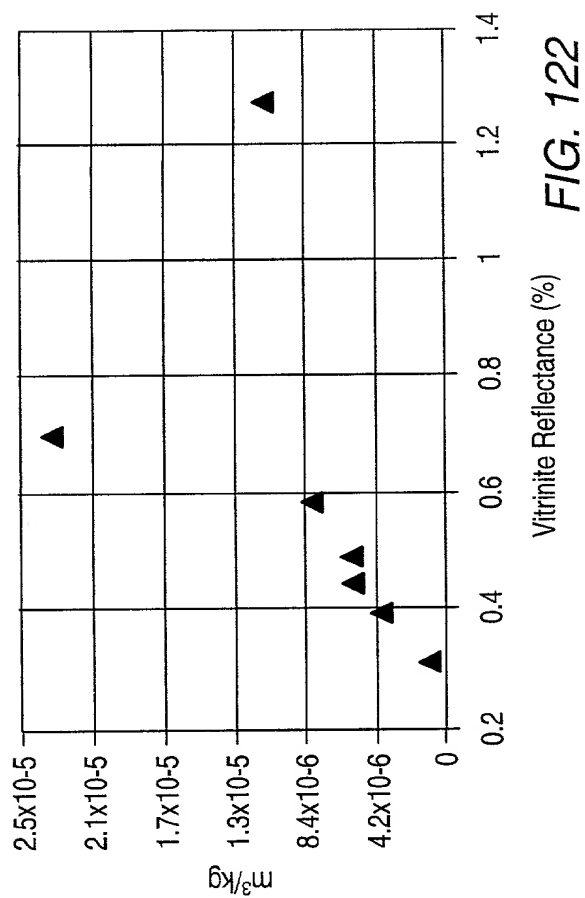
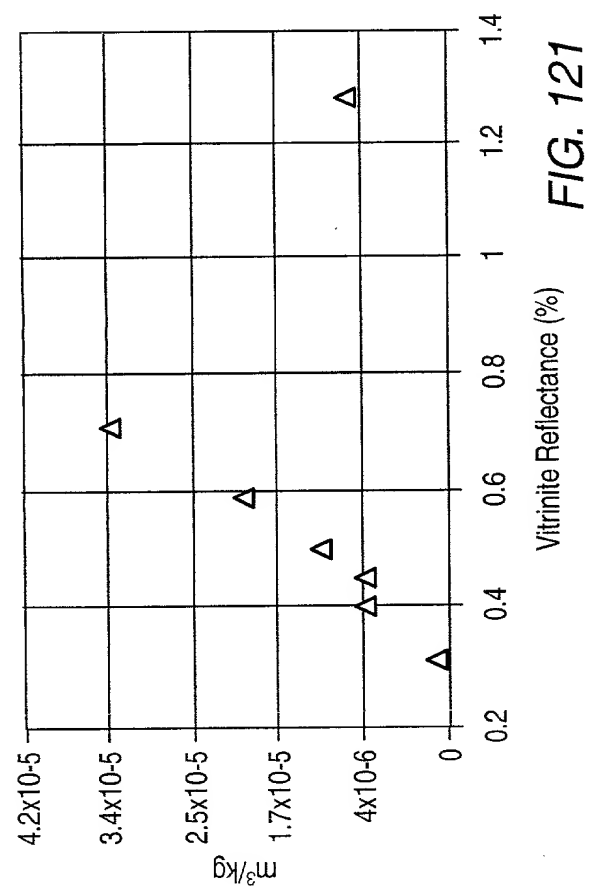


FIG. 120



APL Gravity (°) vs. Vitrite Reflectance (%)

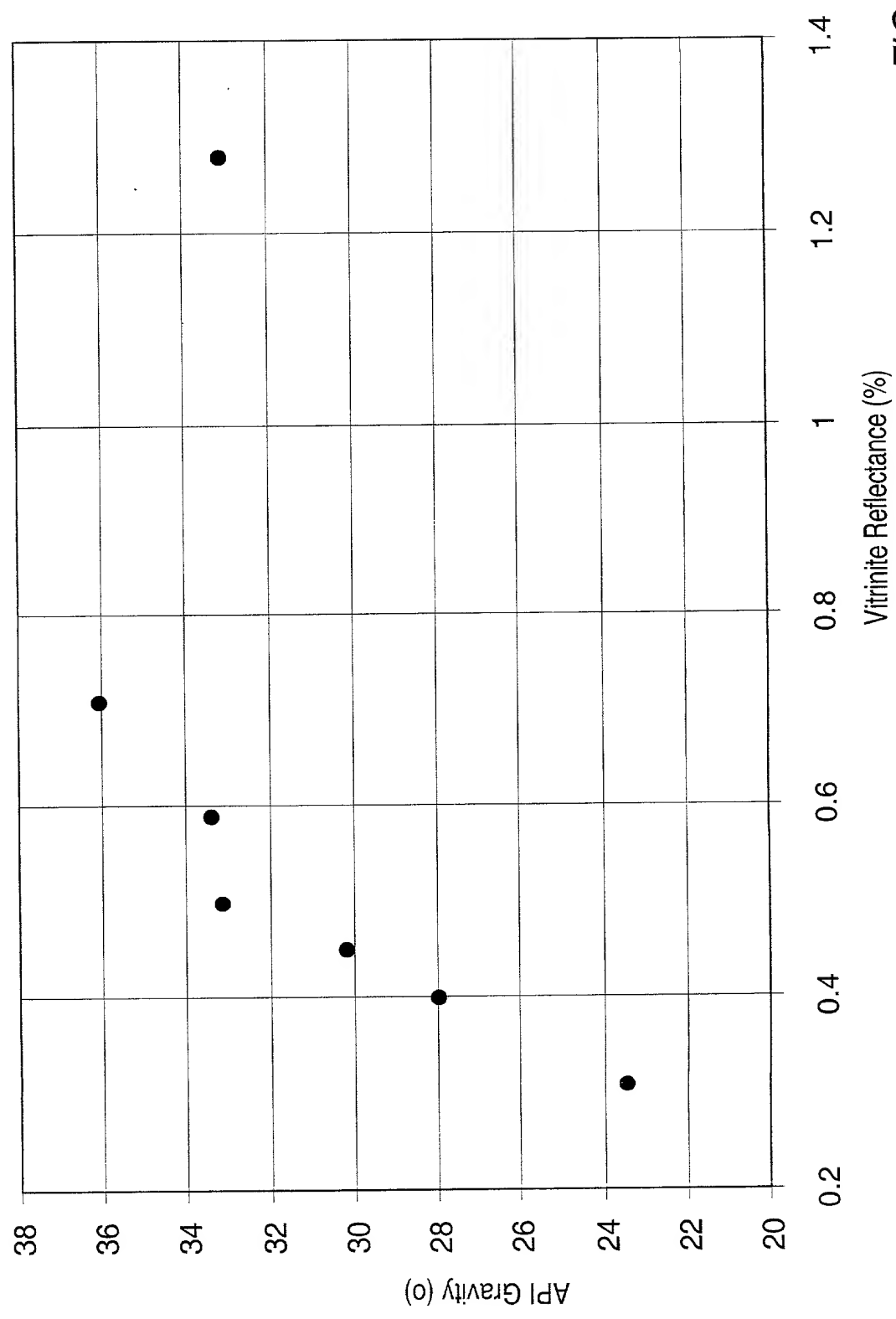
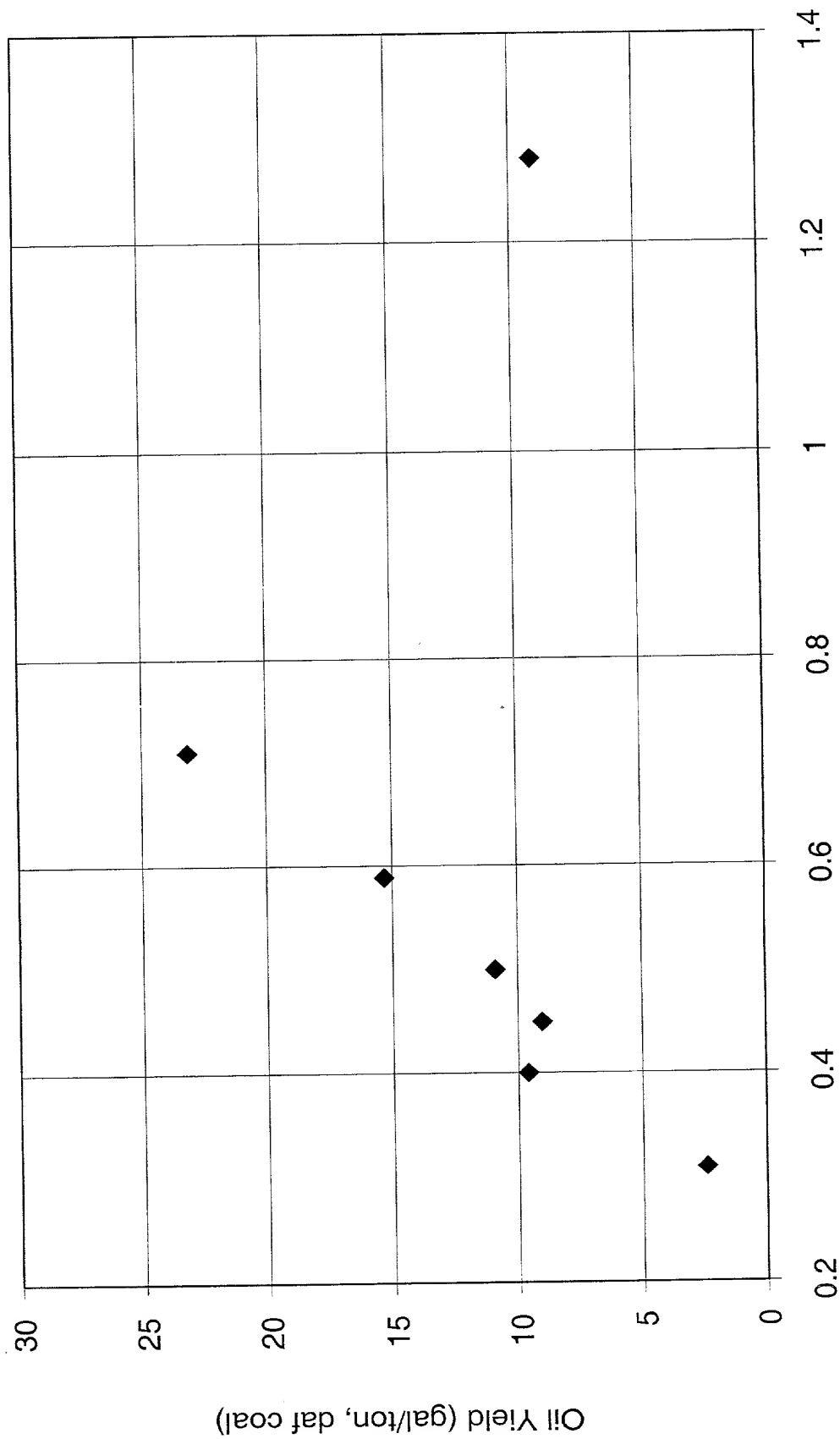


FIG. 125

FIG. 126



Vitrinite Reflectance (%)

FIG. 126

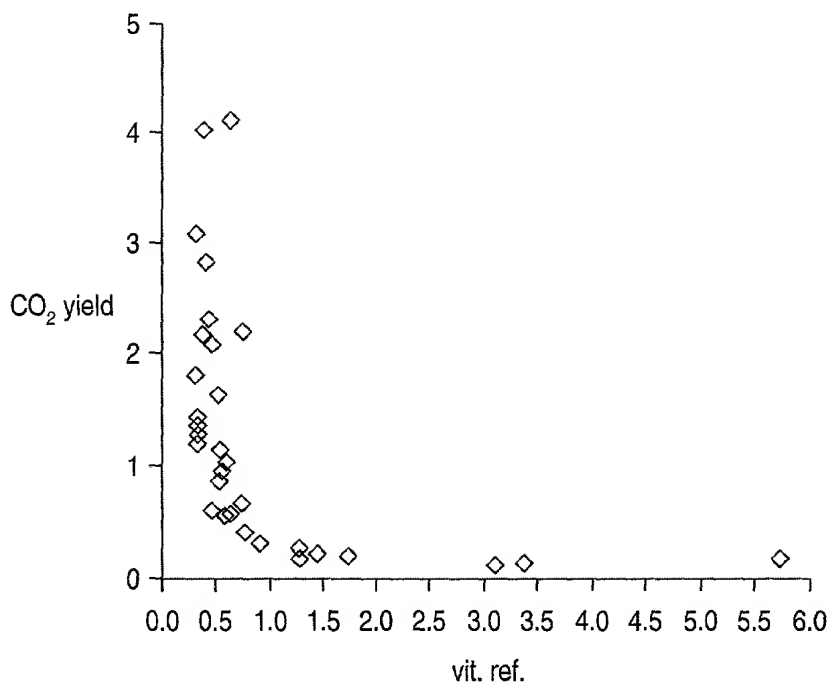


FIG. 127

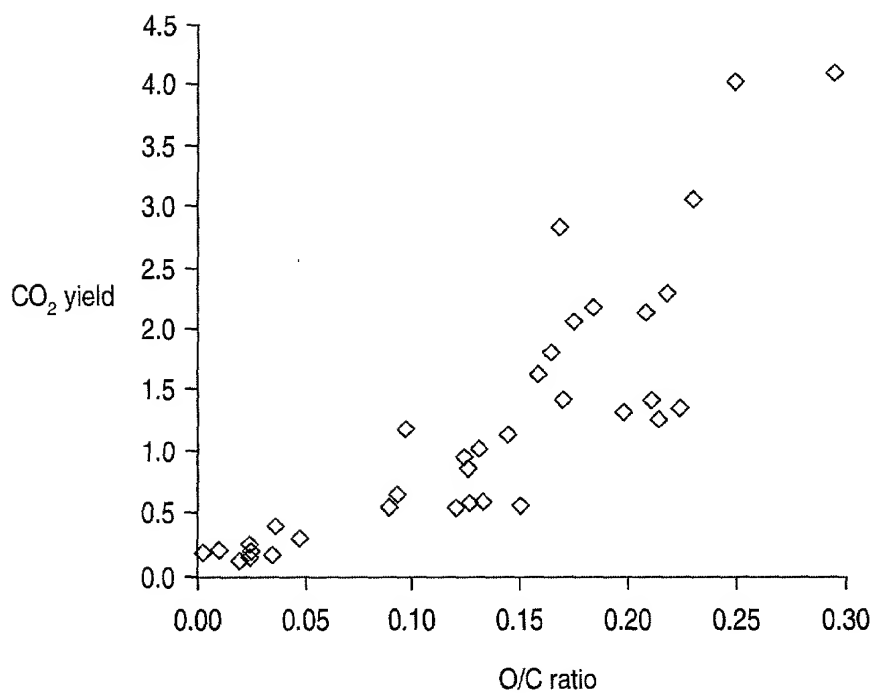


FIG. 128

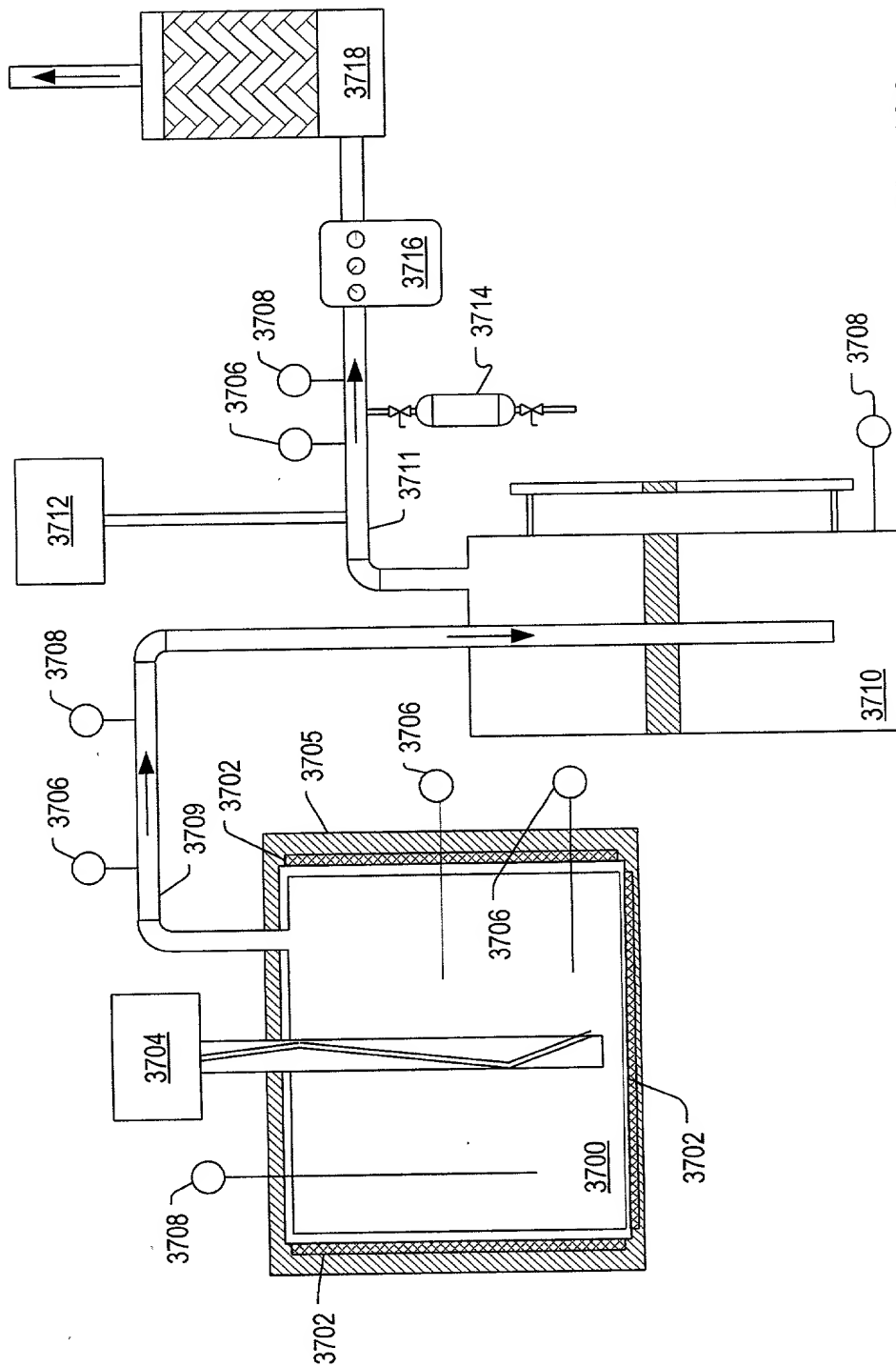


FIG. 129

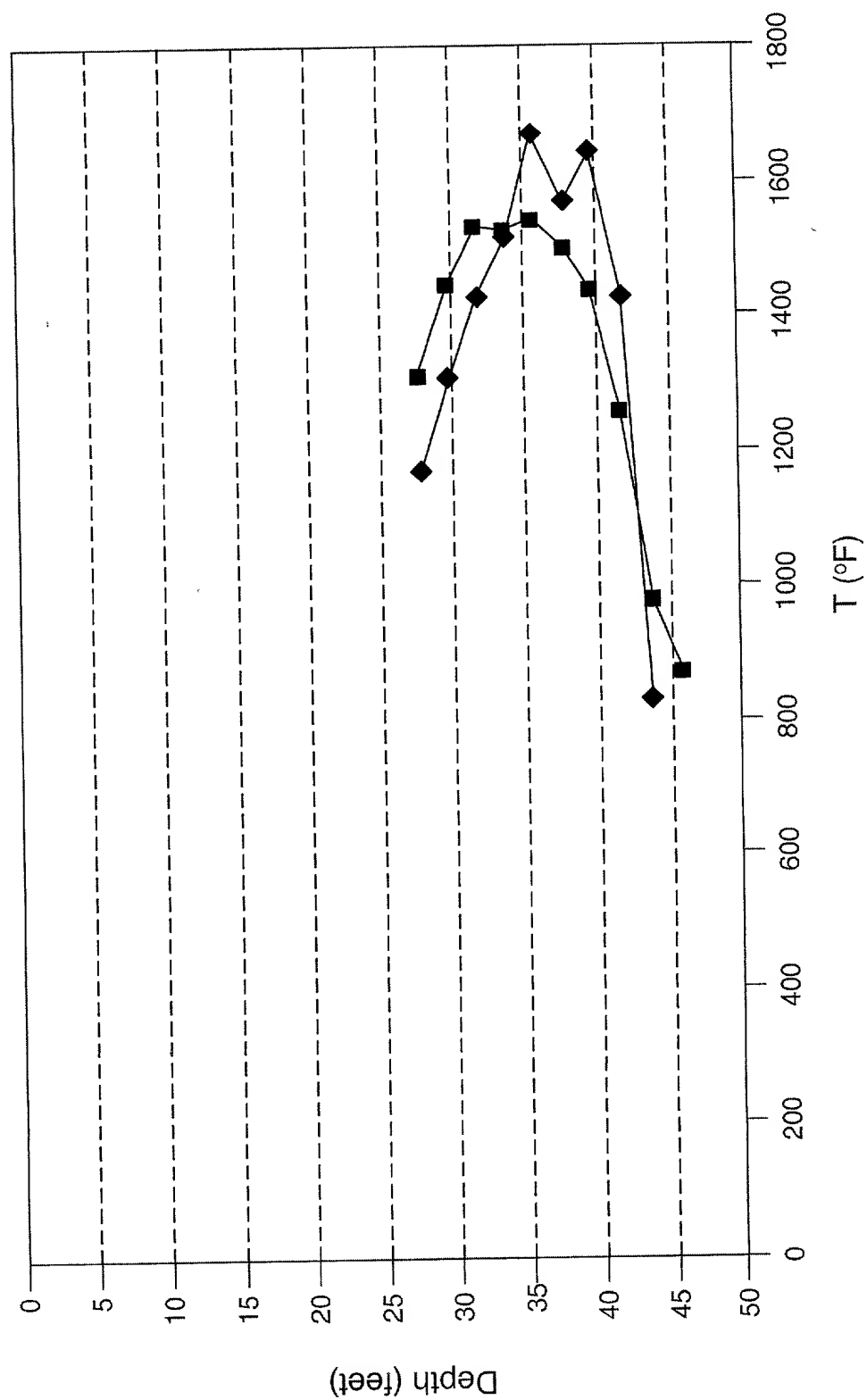


FIG. 130

FIG. 131

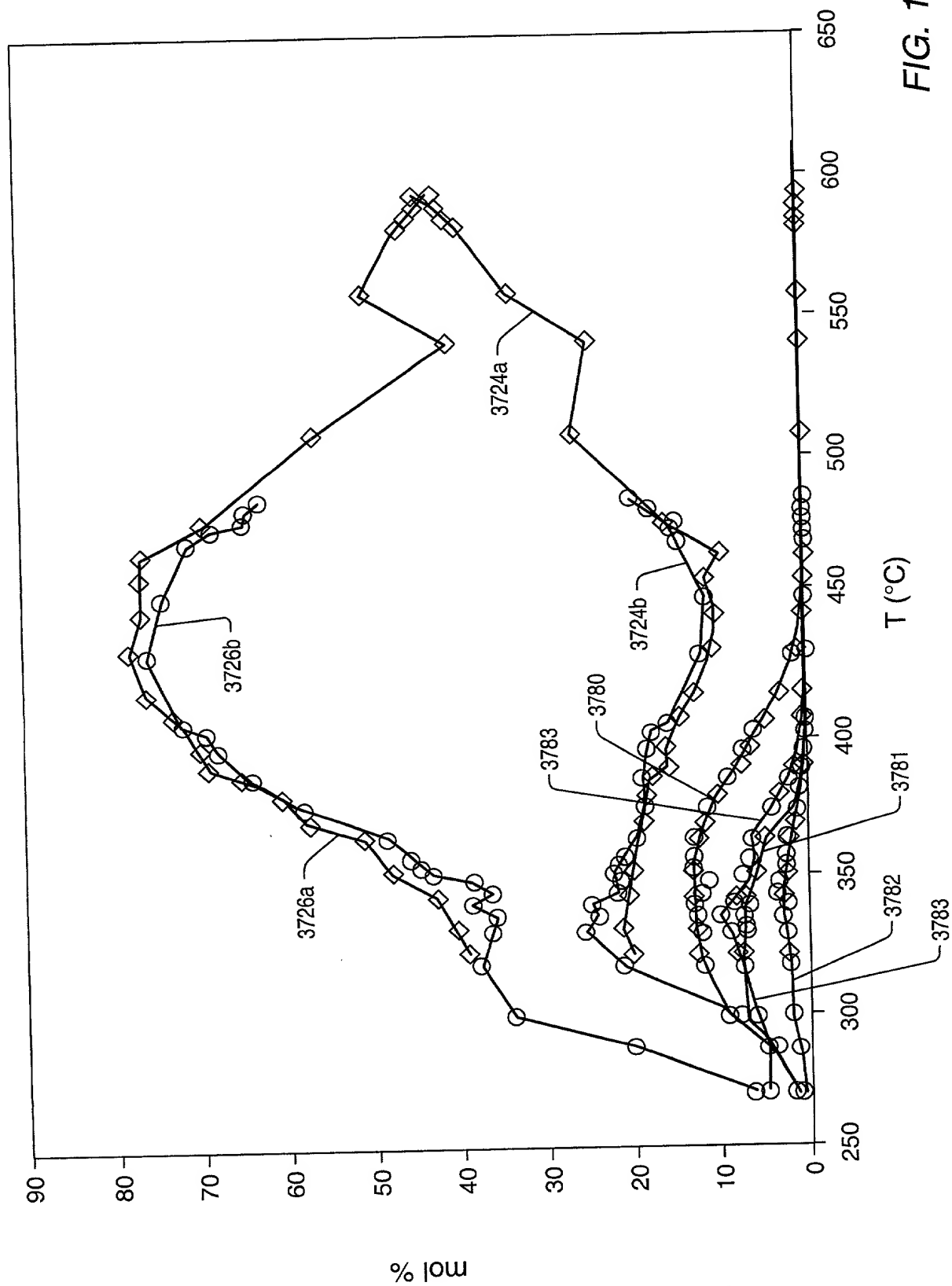


FIG. 131

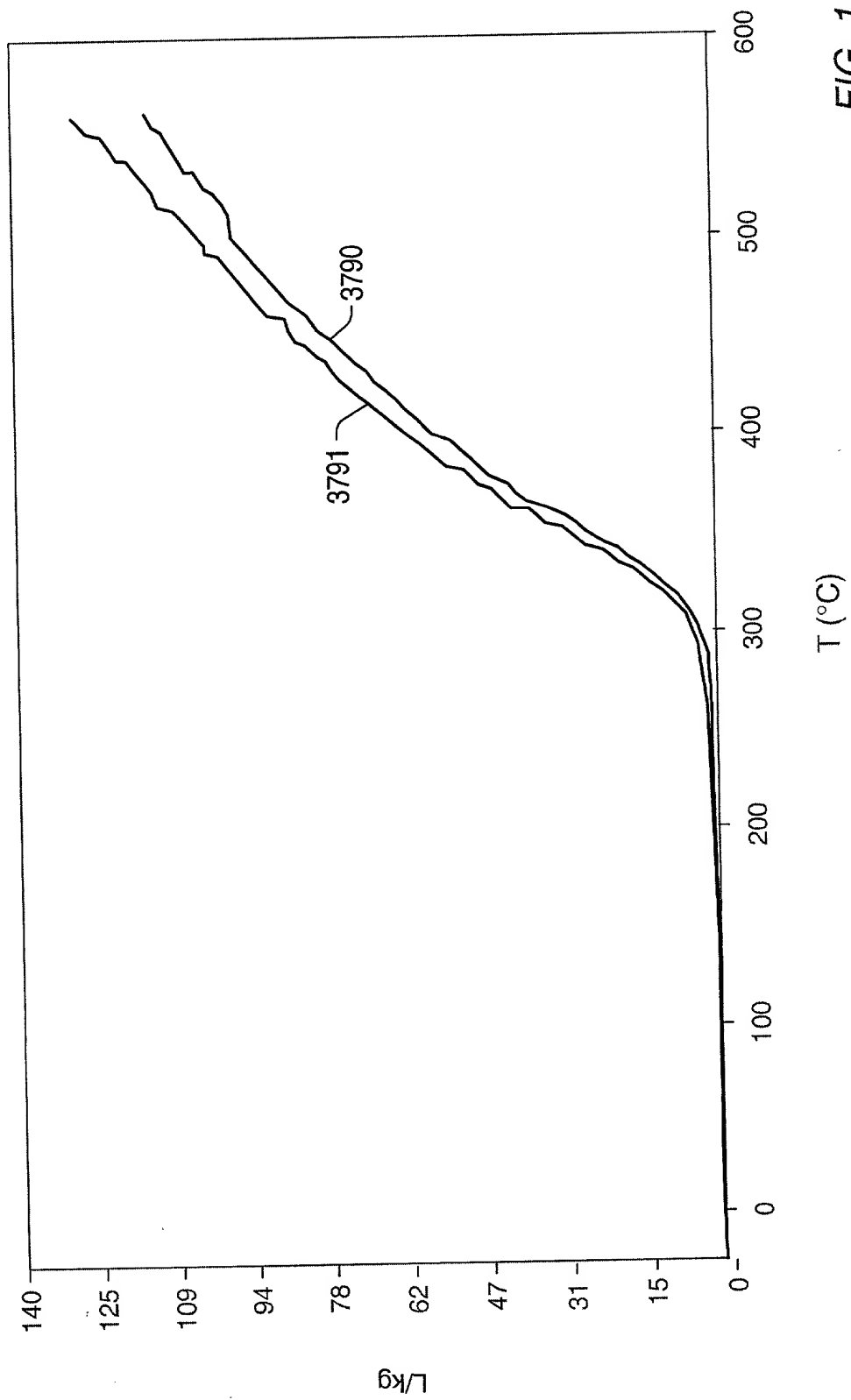


FIG. 132

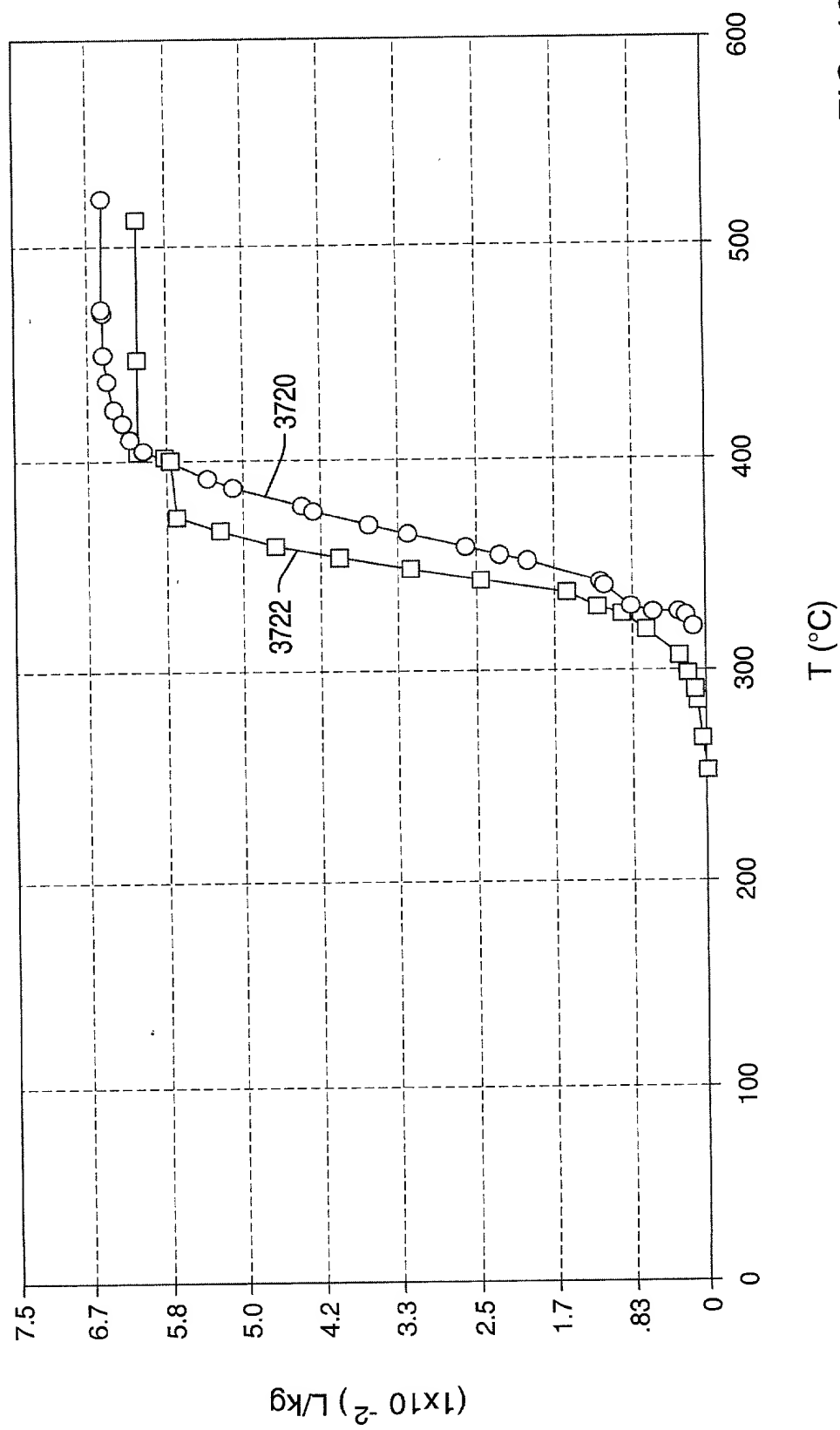


FIG. 133

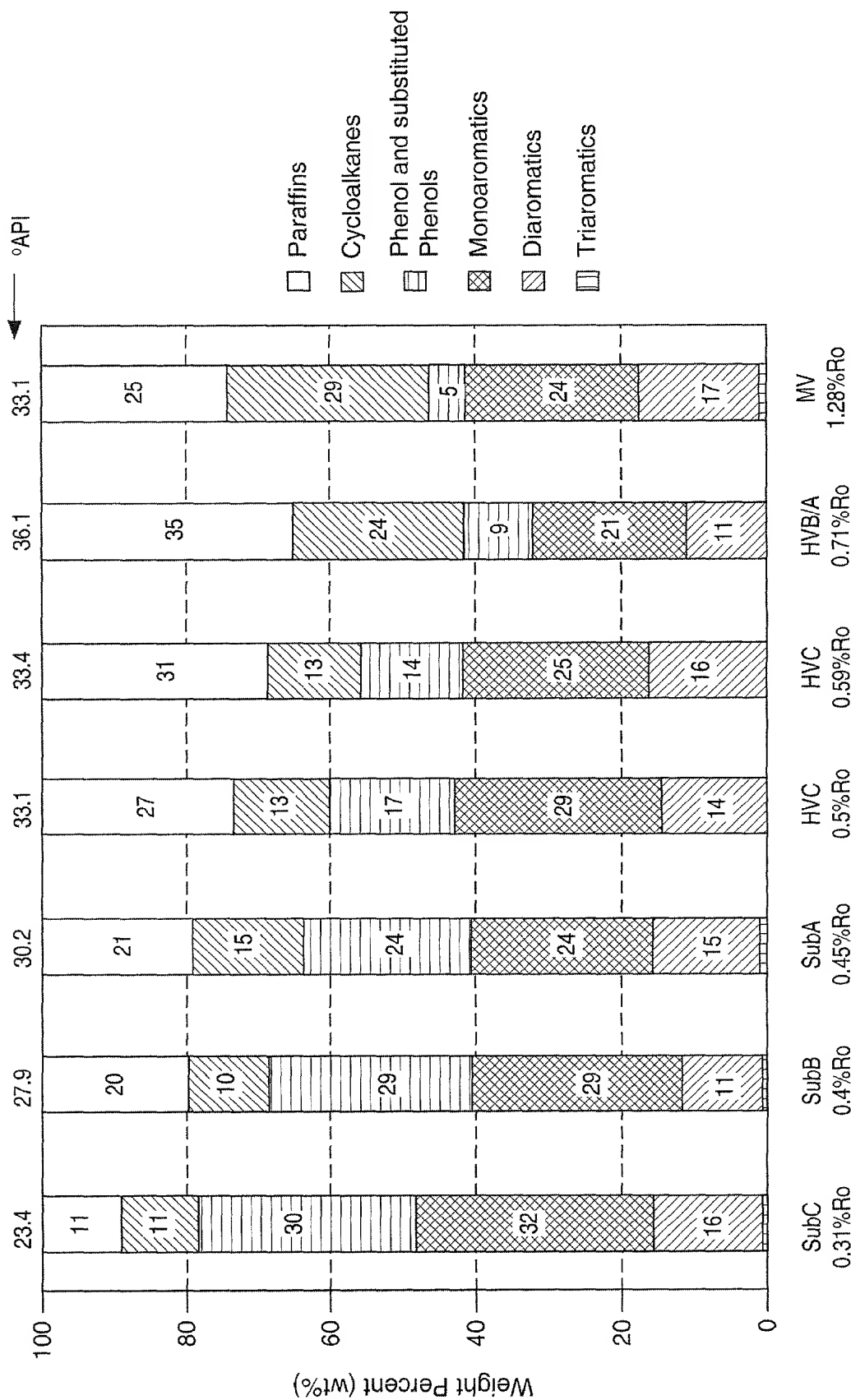


FIG. 134

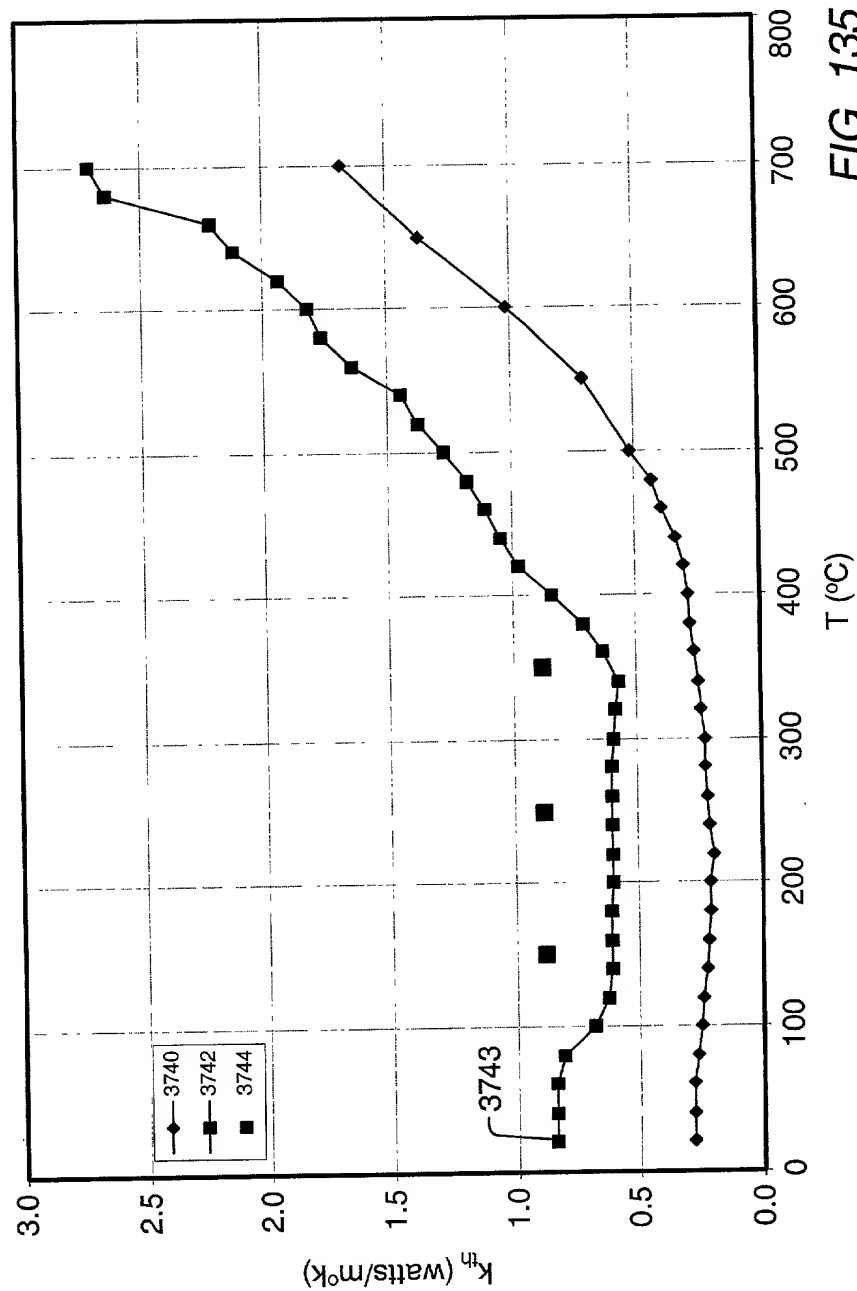


FIG. 135

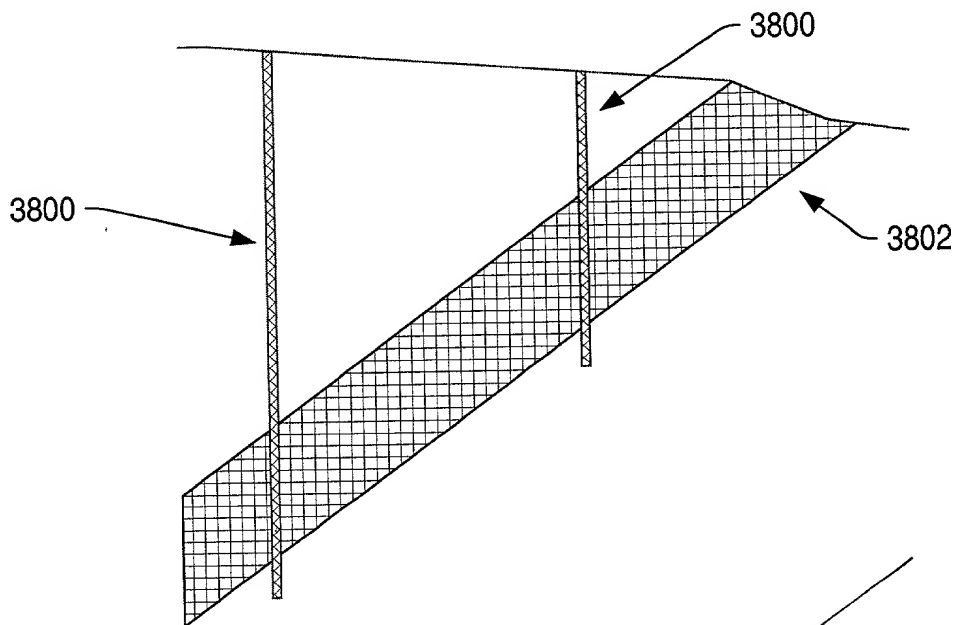


FIG. 136

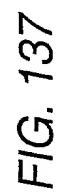


FIG. 137

1. The first step is to determine the initial conditions of the system. This includes the initial temperature, pressure, and composition of the gas mixture.

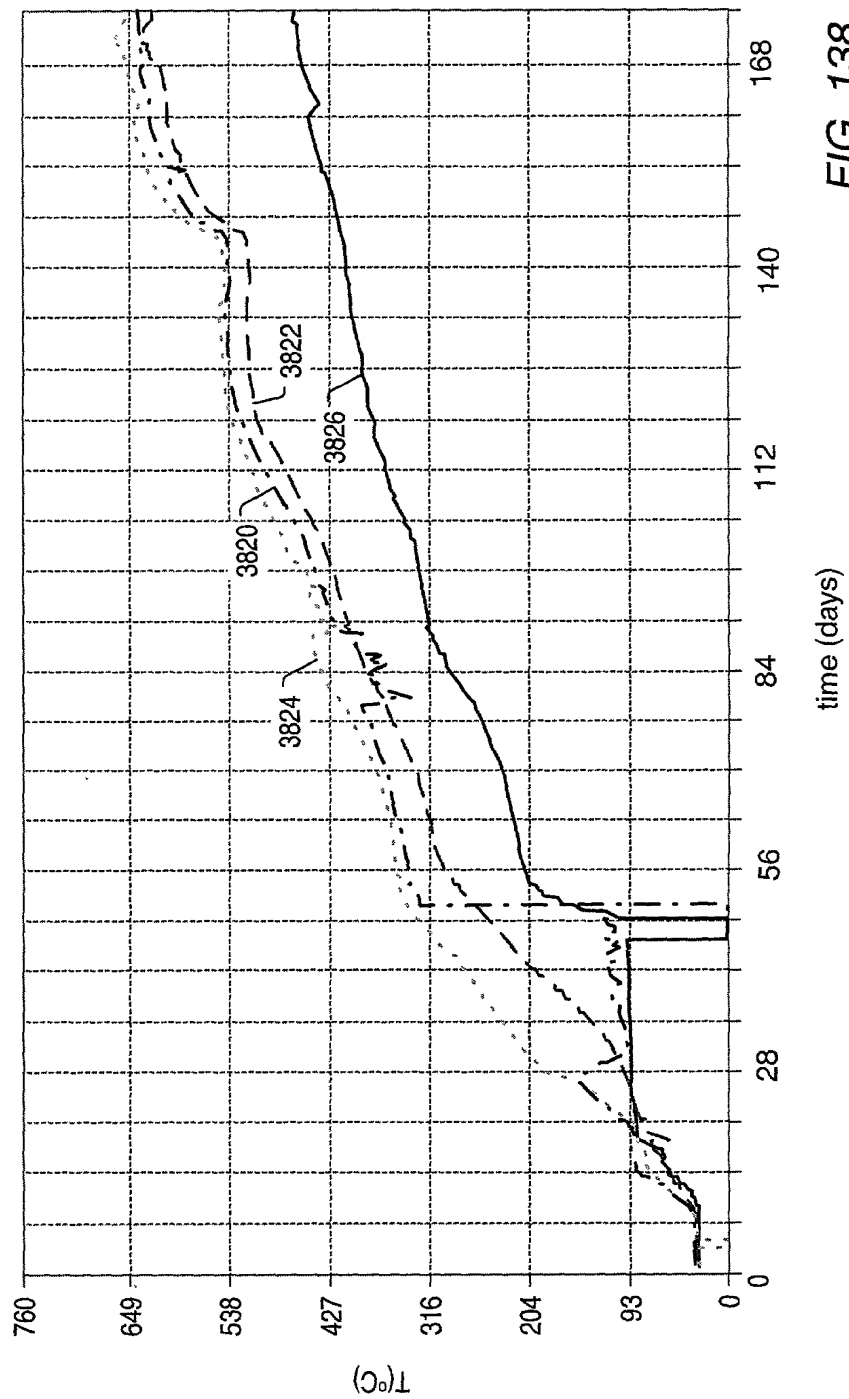


FIG. 138

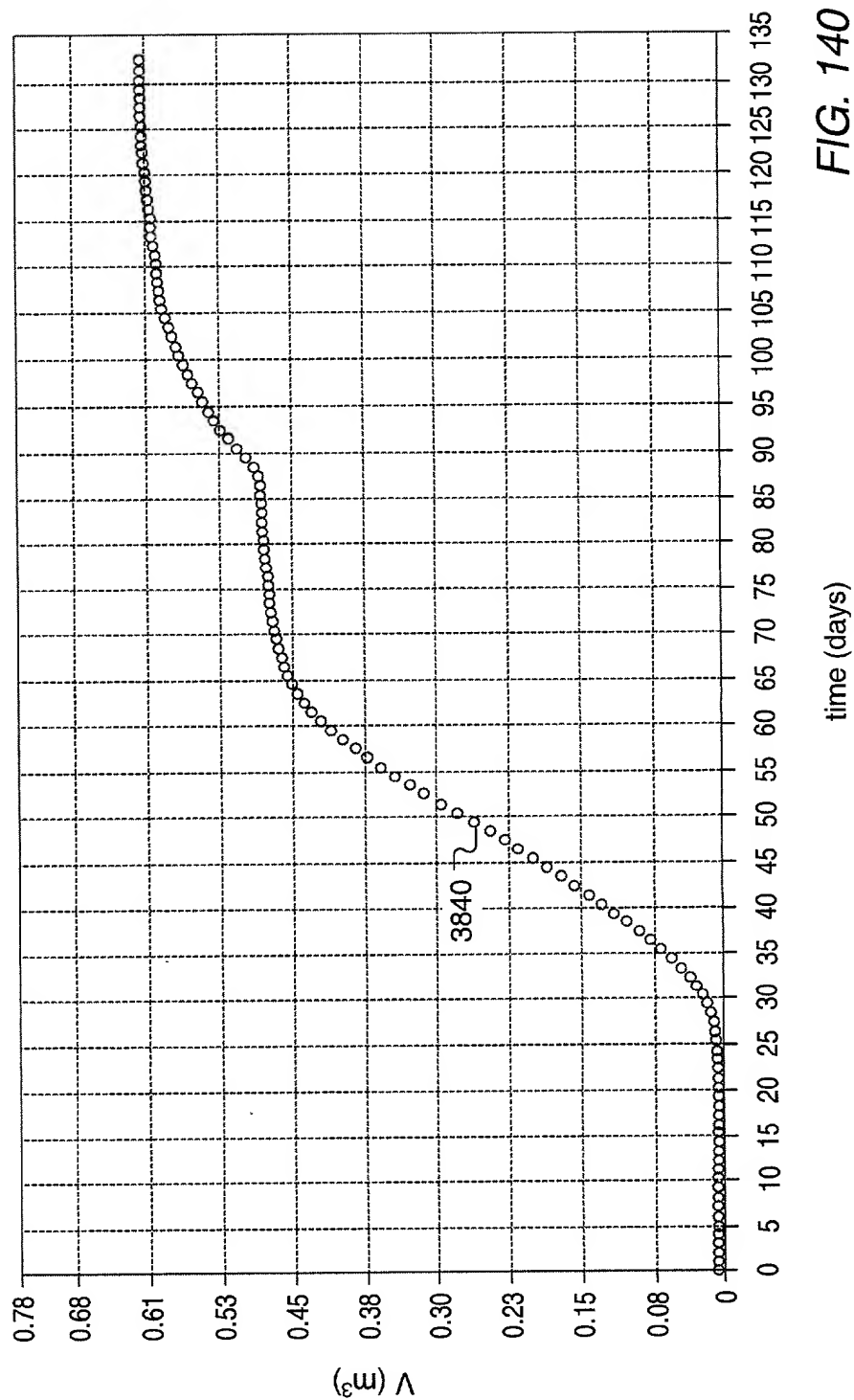


FIG. 140

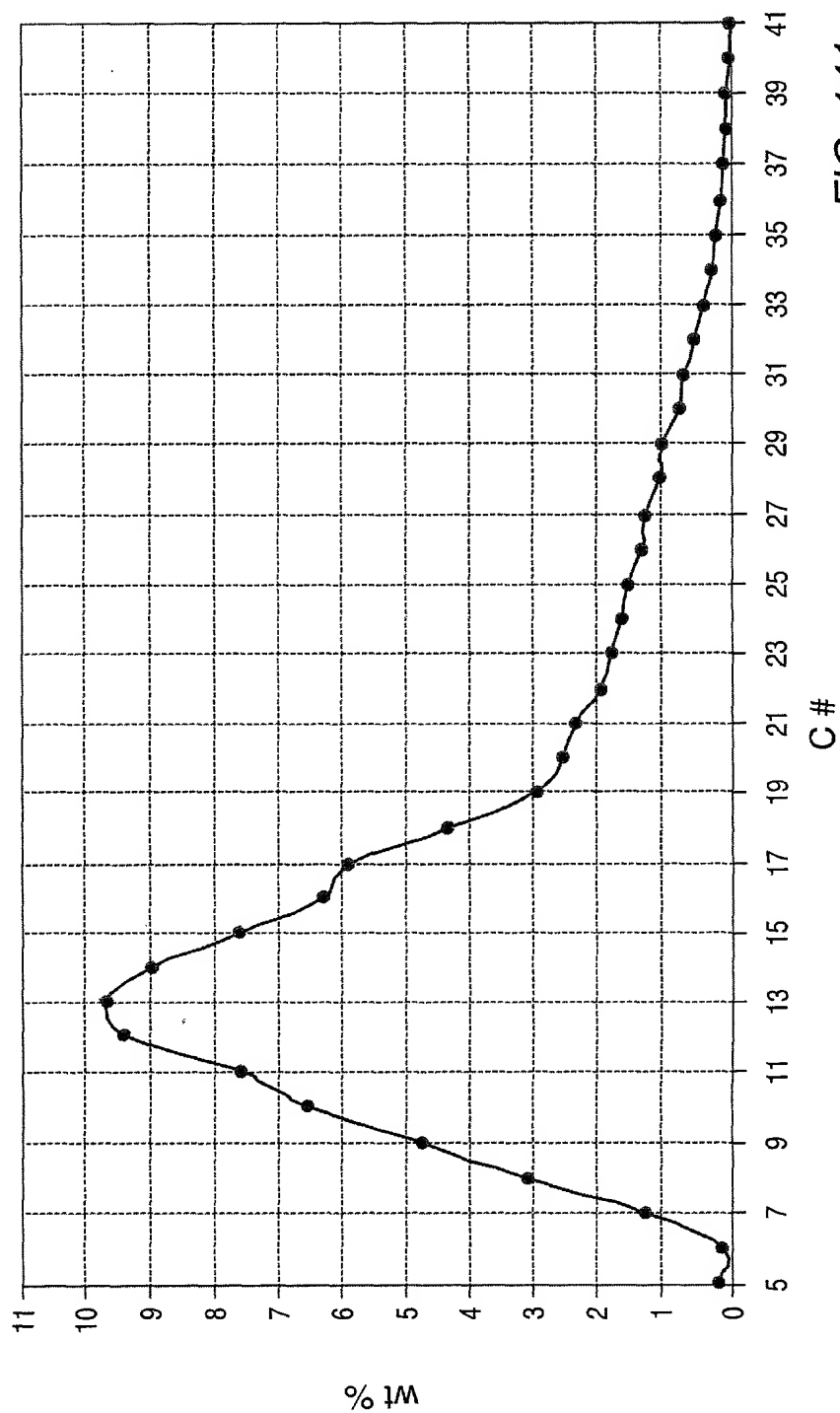


FIG. 141

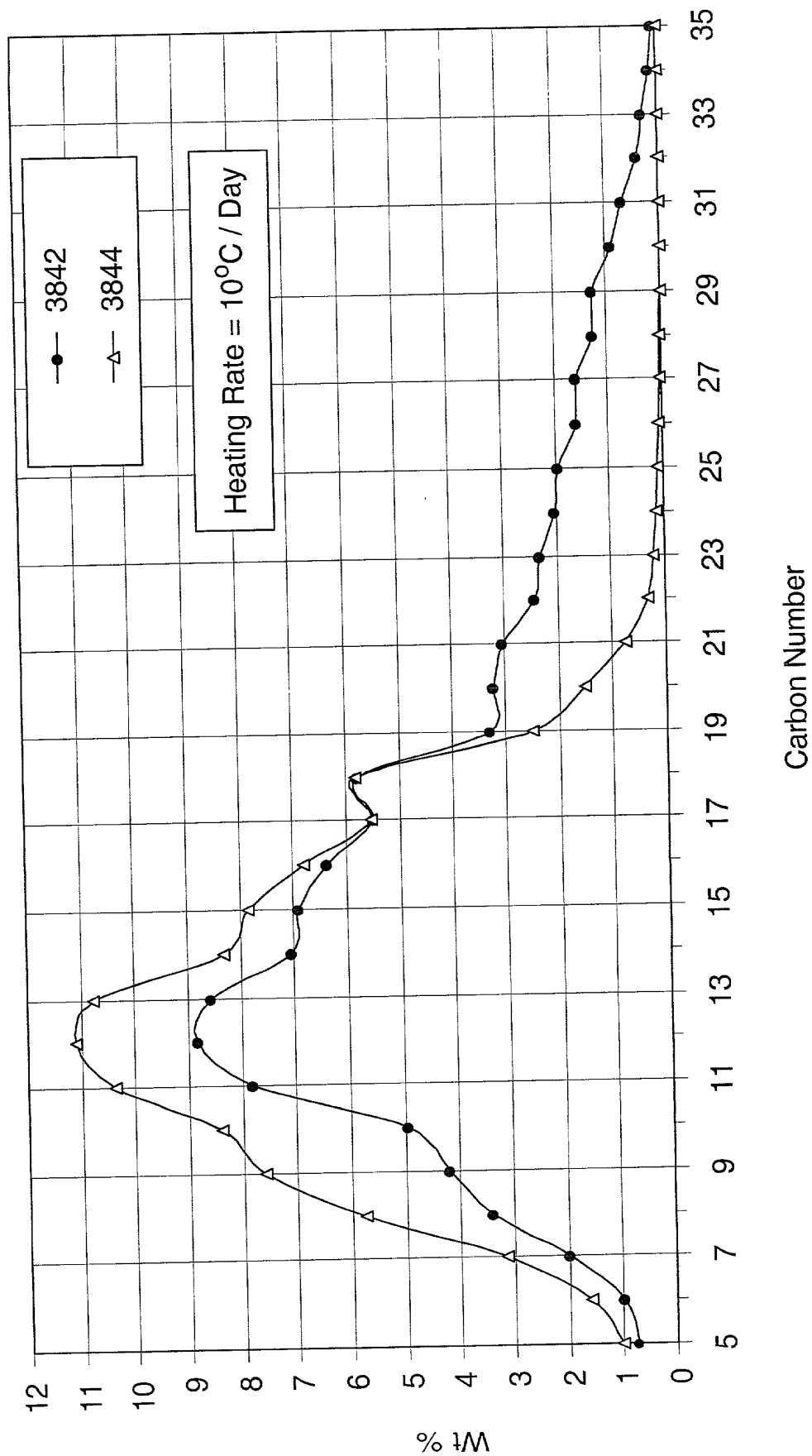


FIG. 142

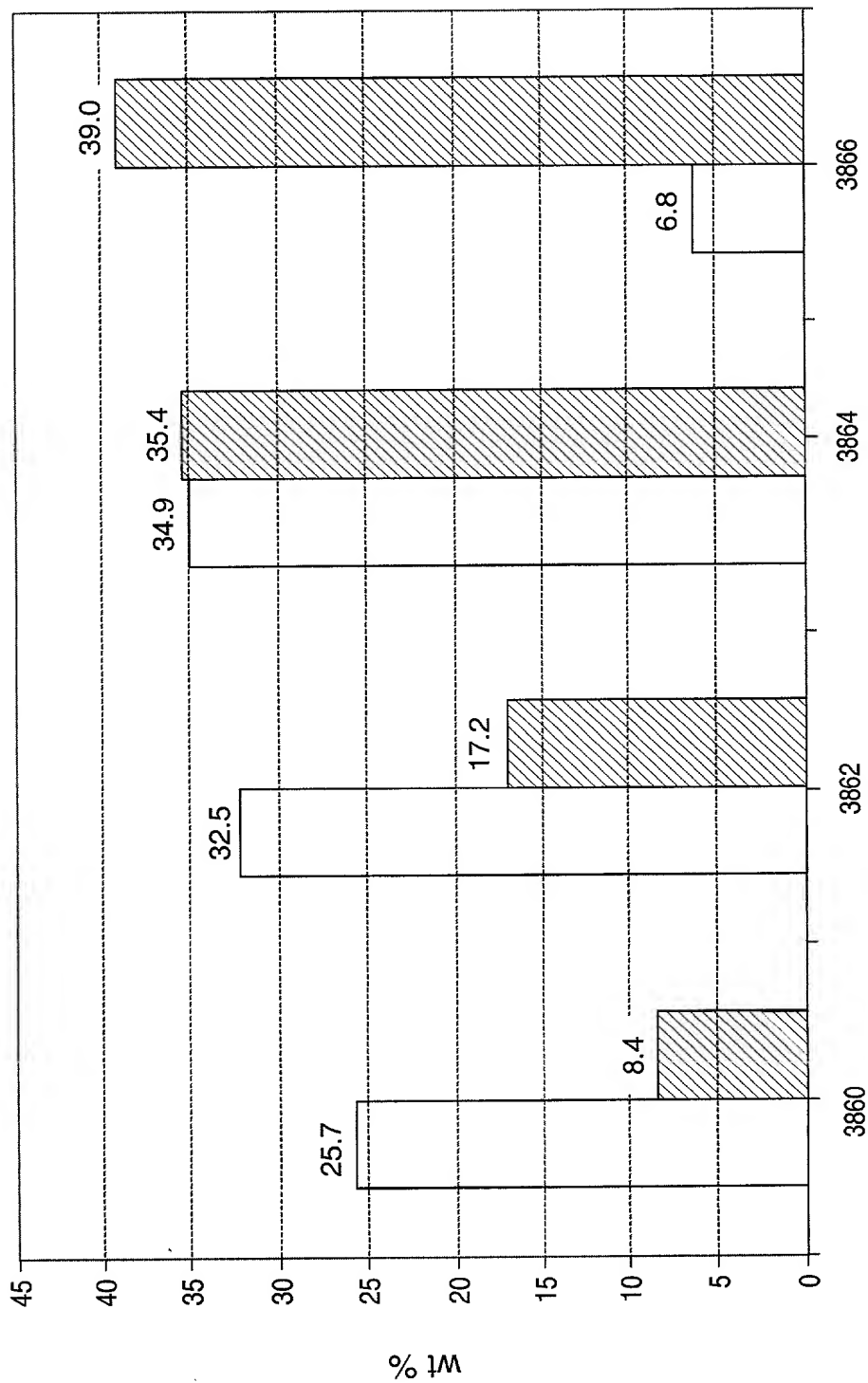


FIG. 143

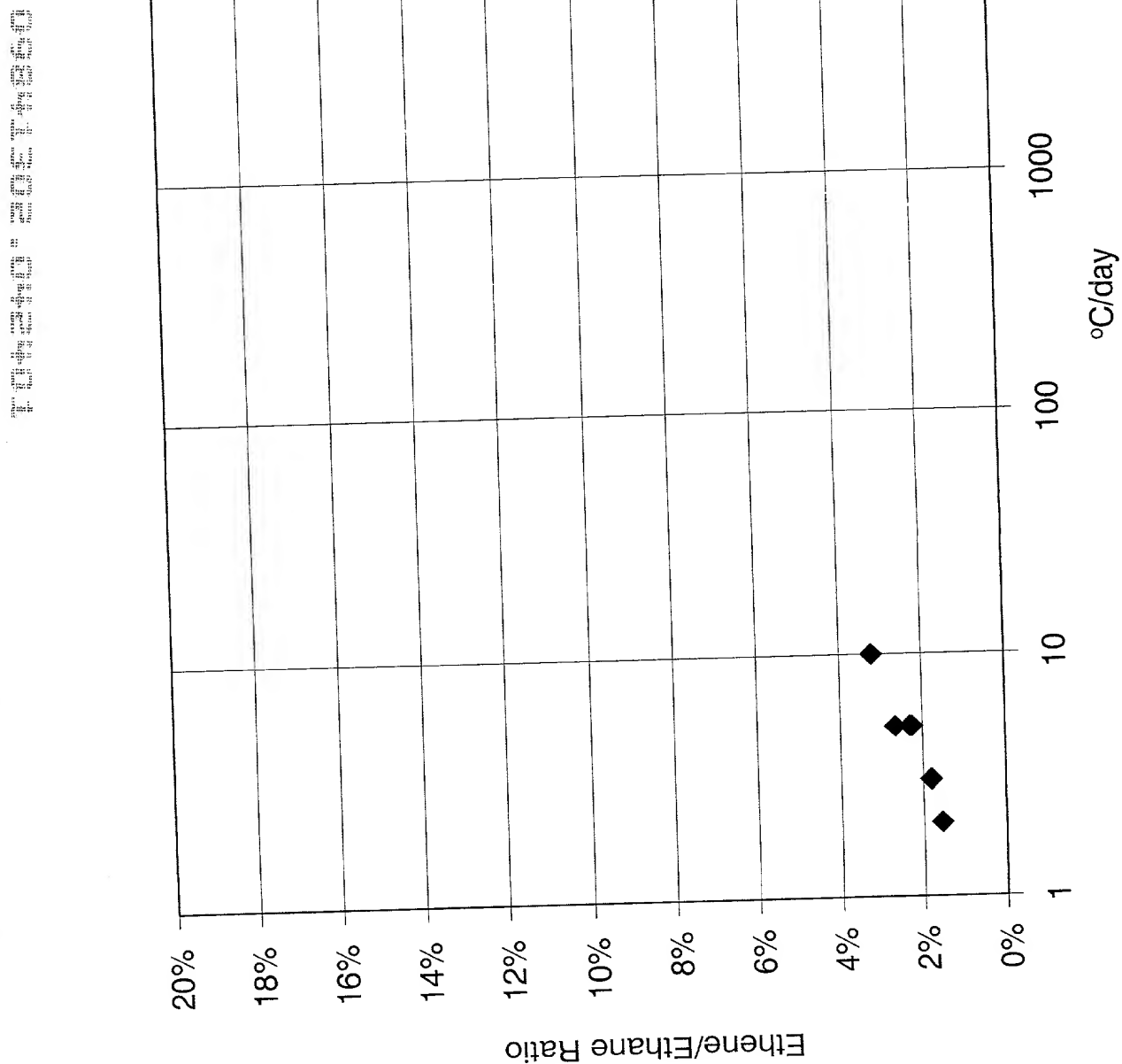


FIG. 144

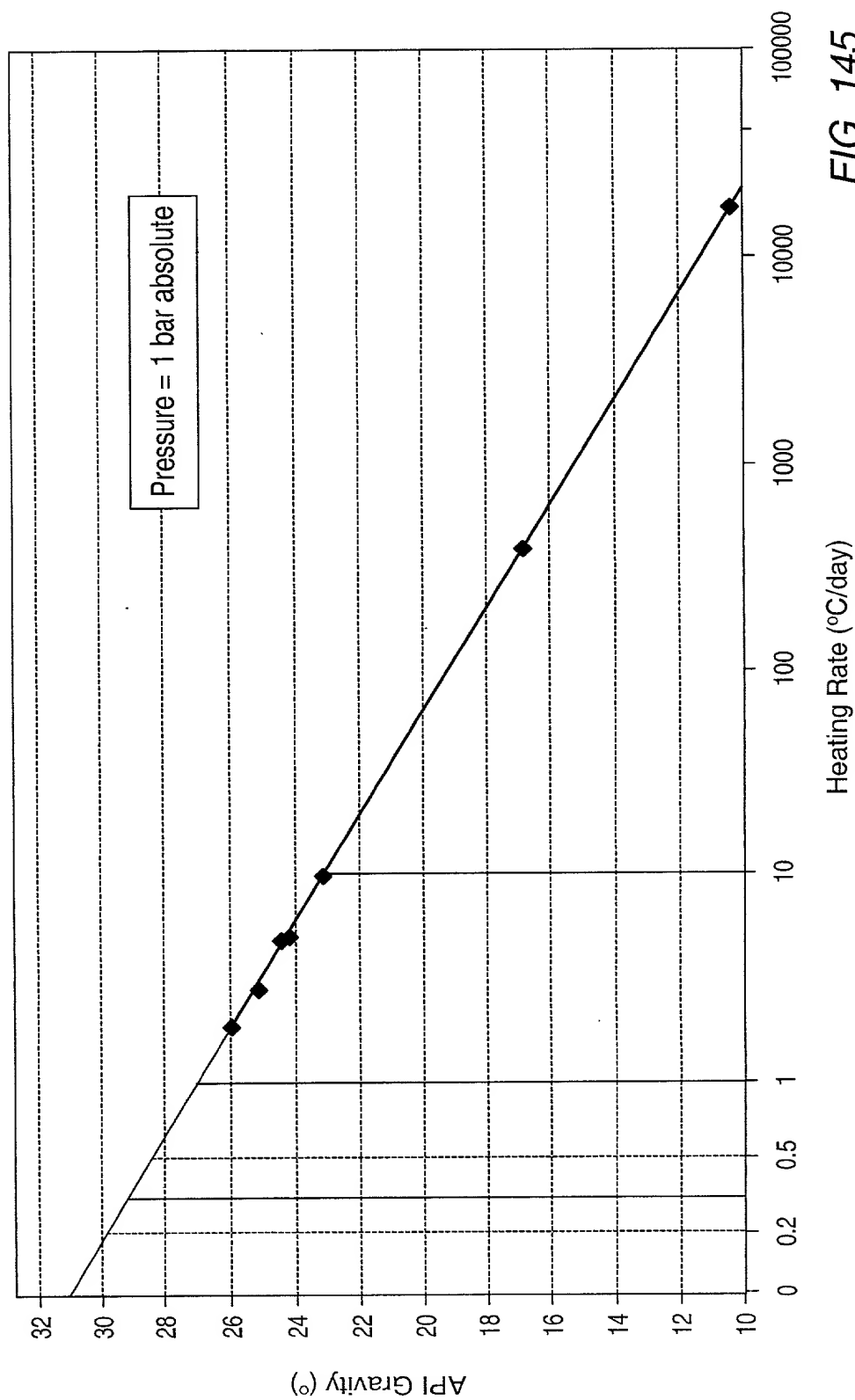


FIG. 145

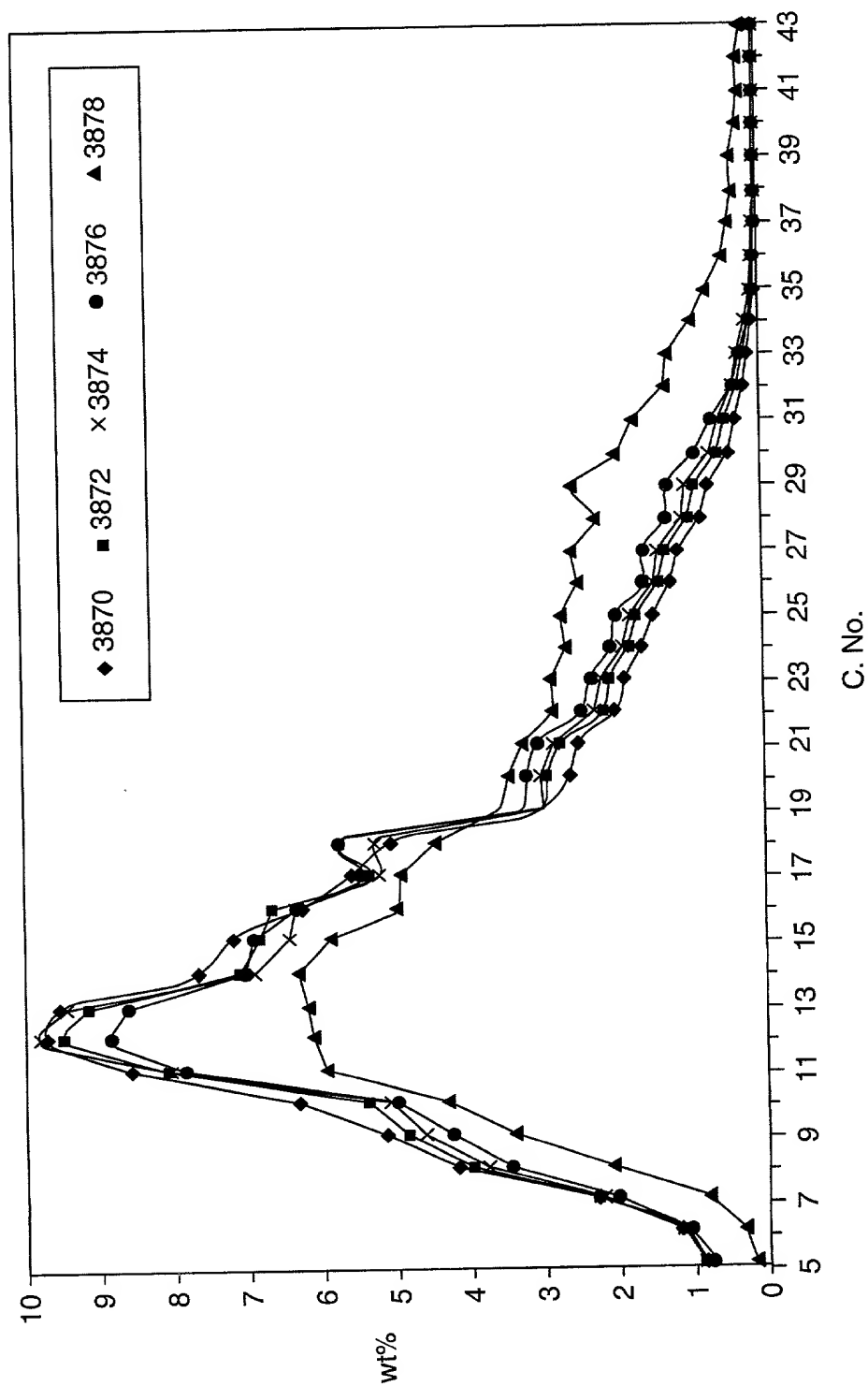


FIG. 146

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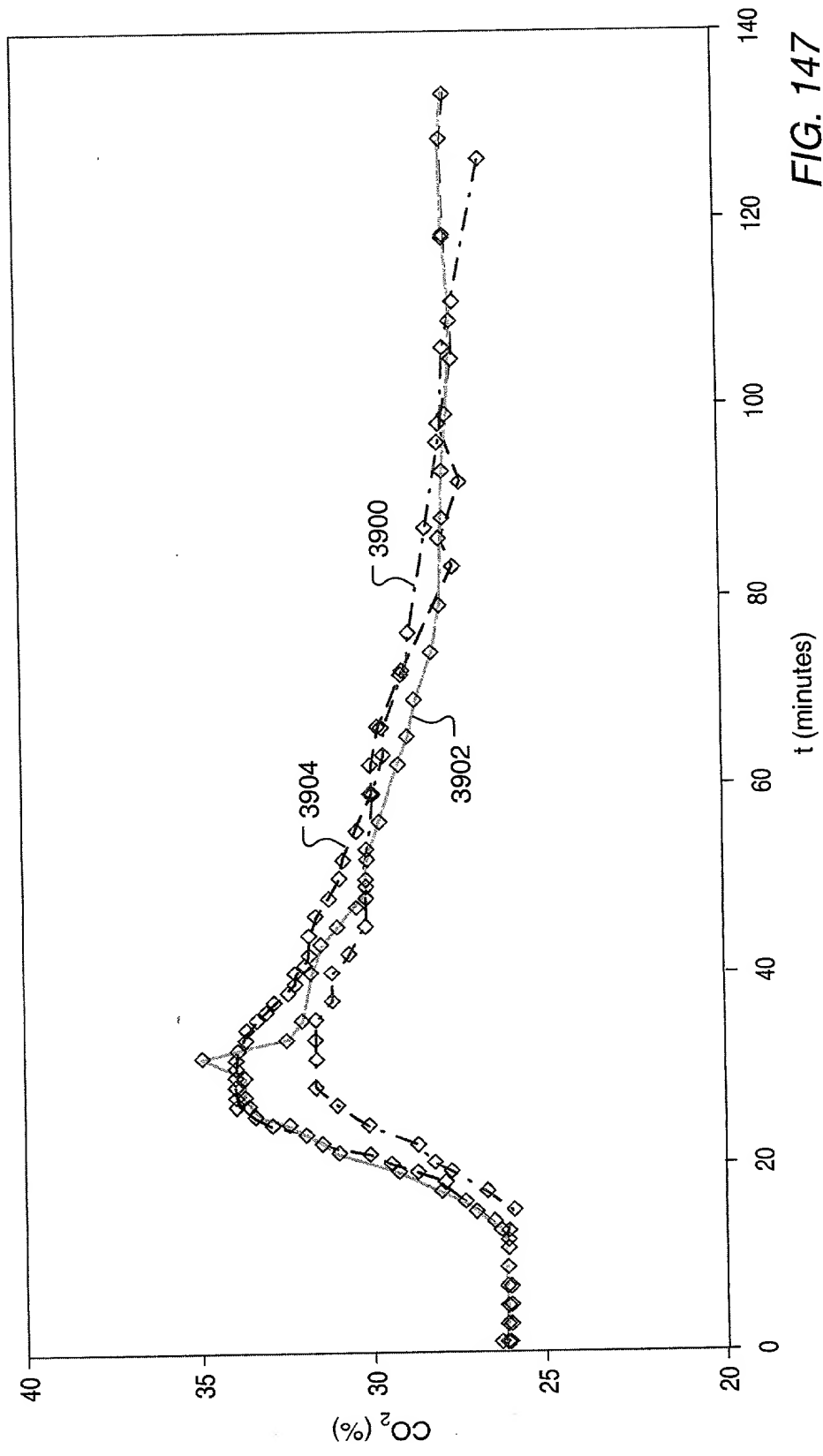


FIG. 147

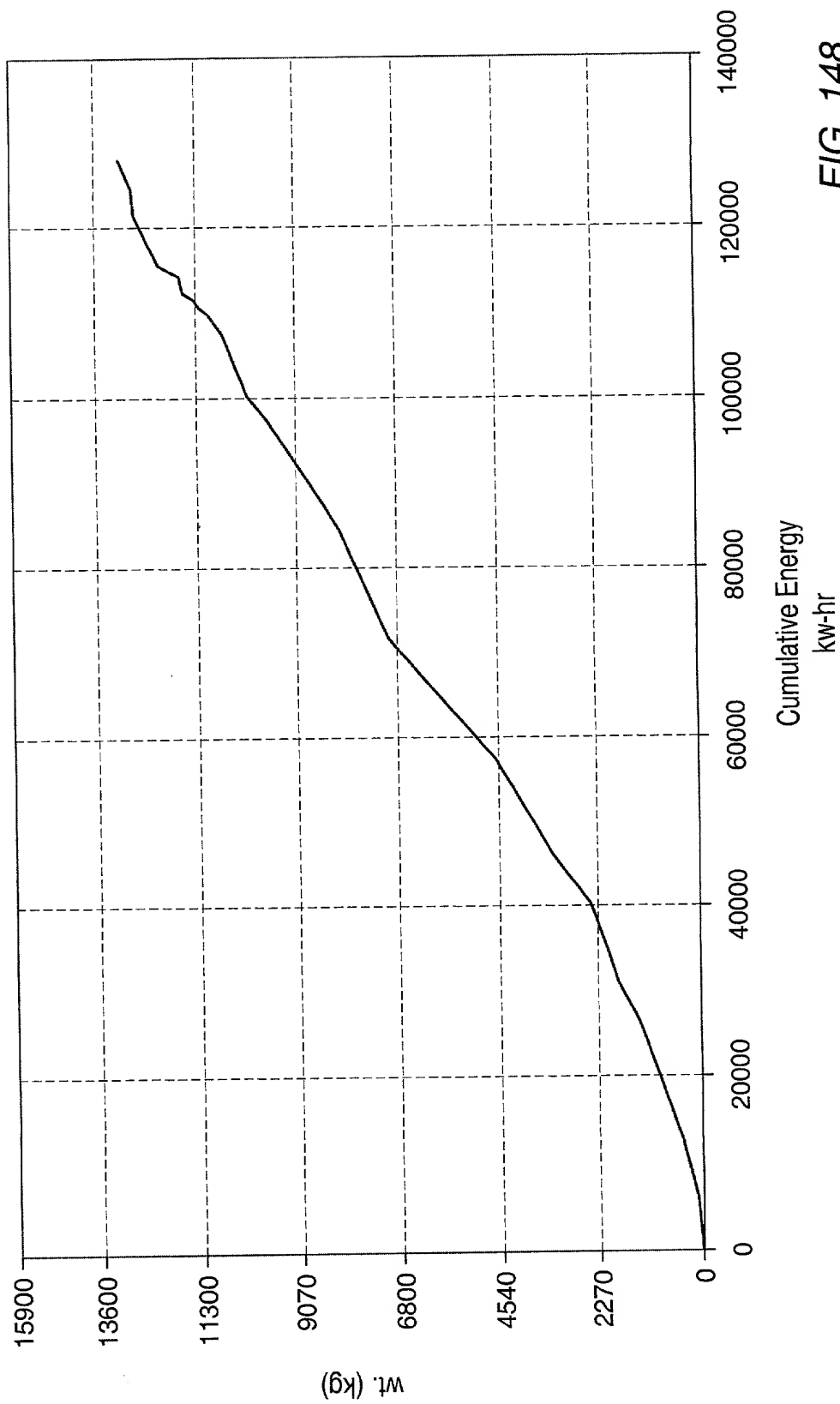


FIG. 148

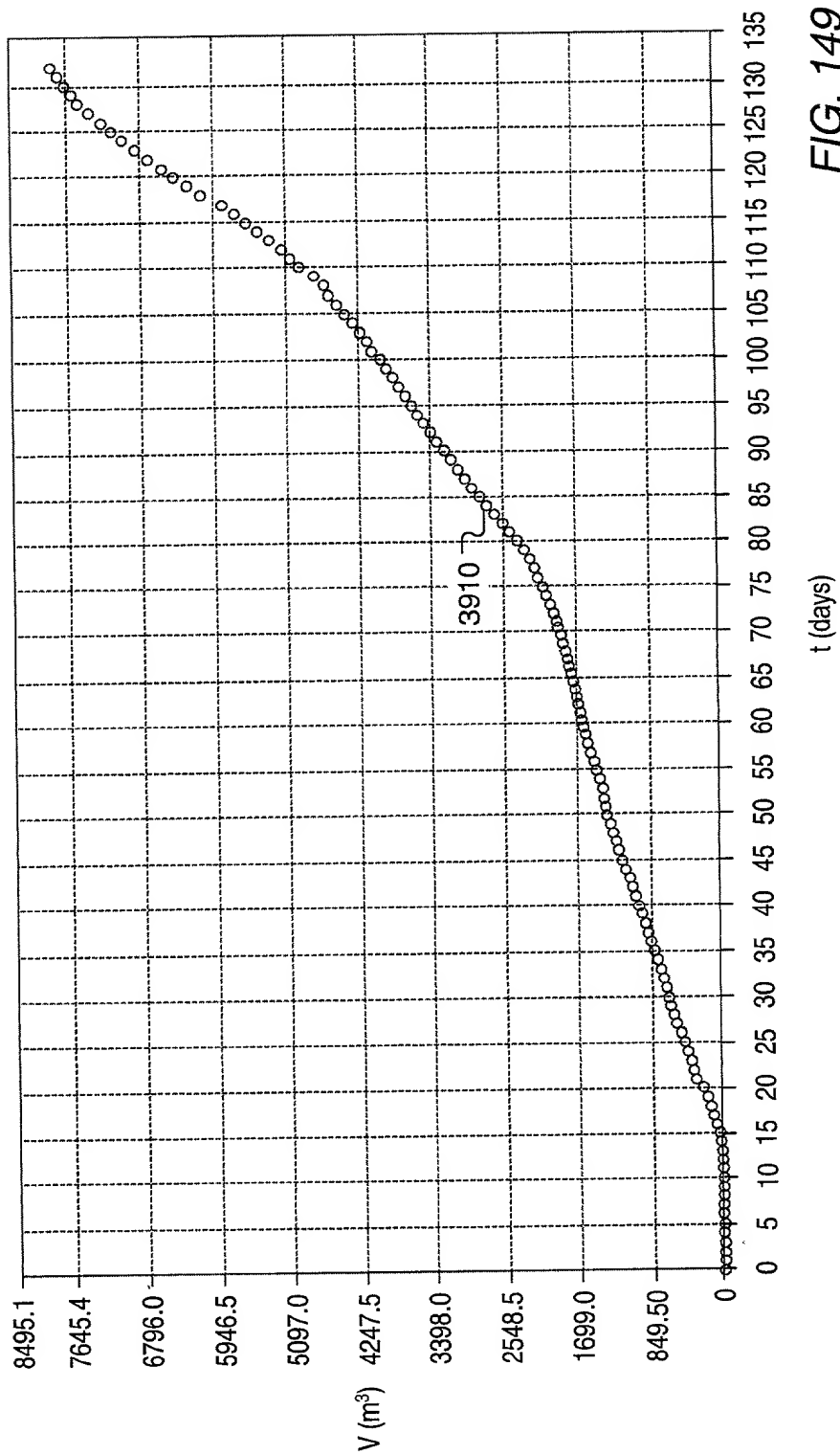


FIG. 149

FIG. 150

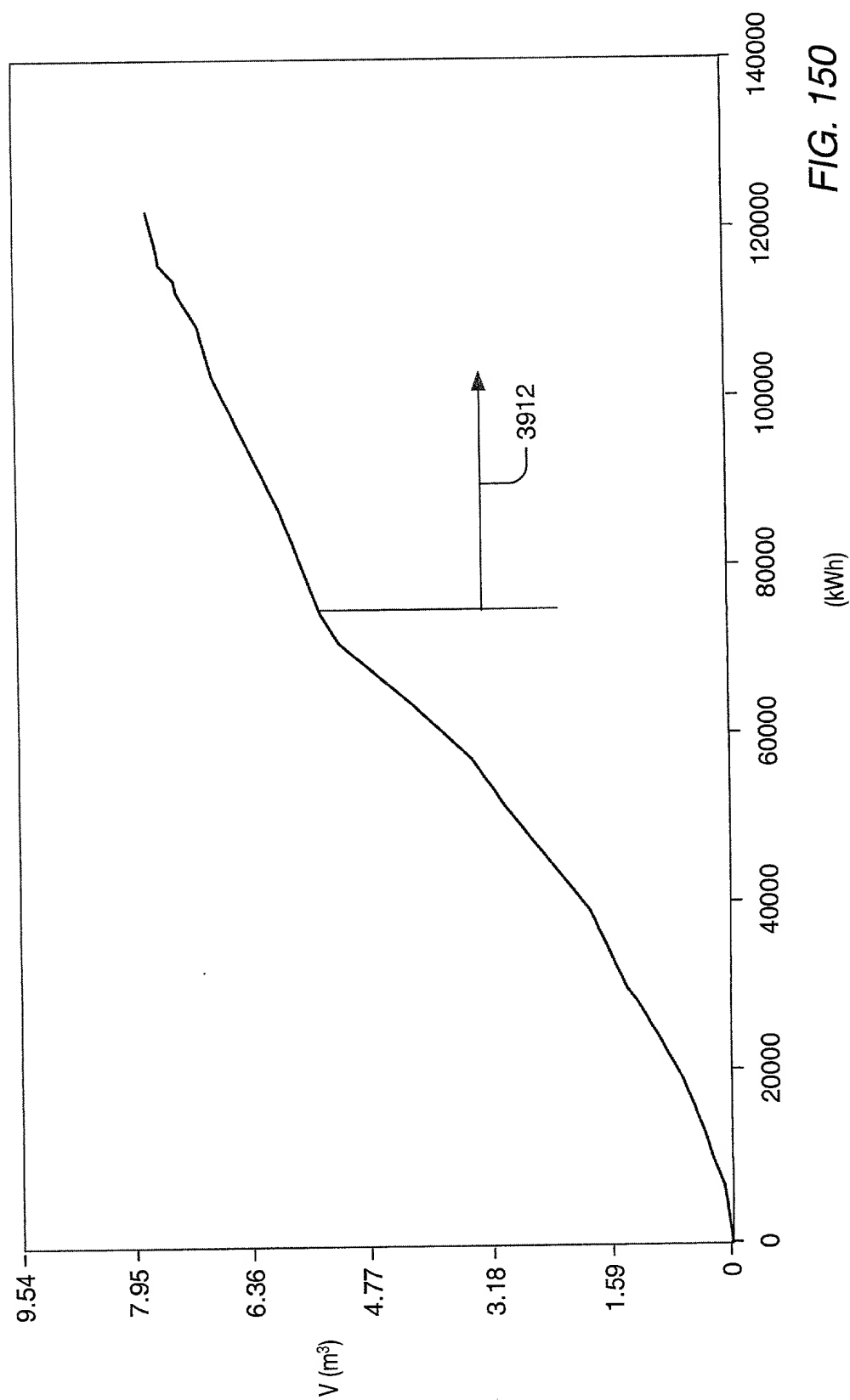


FIG. 150

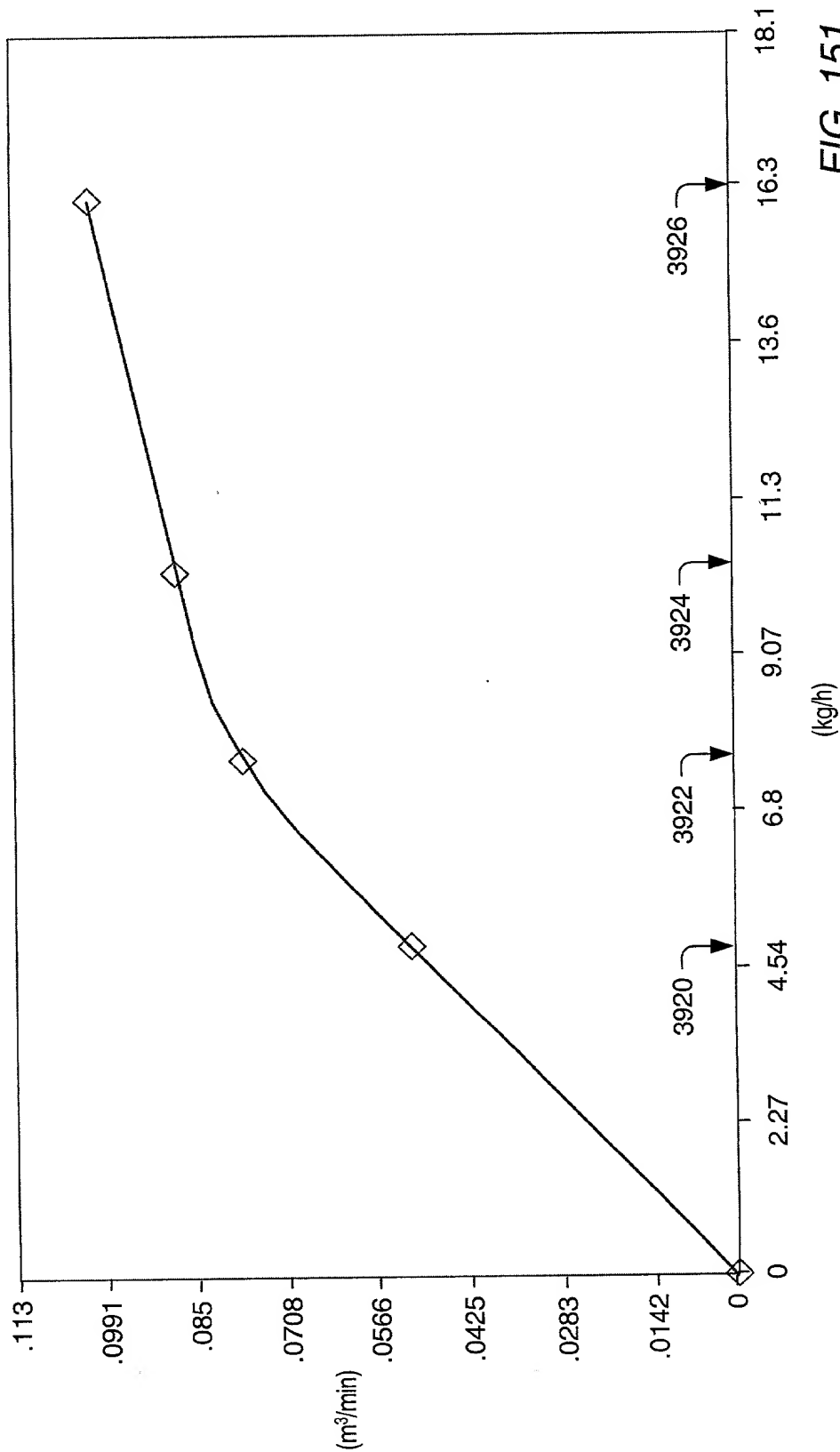


FIG. 151

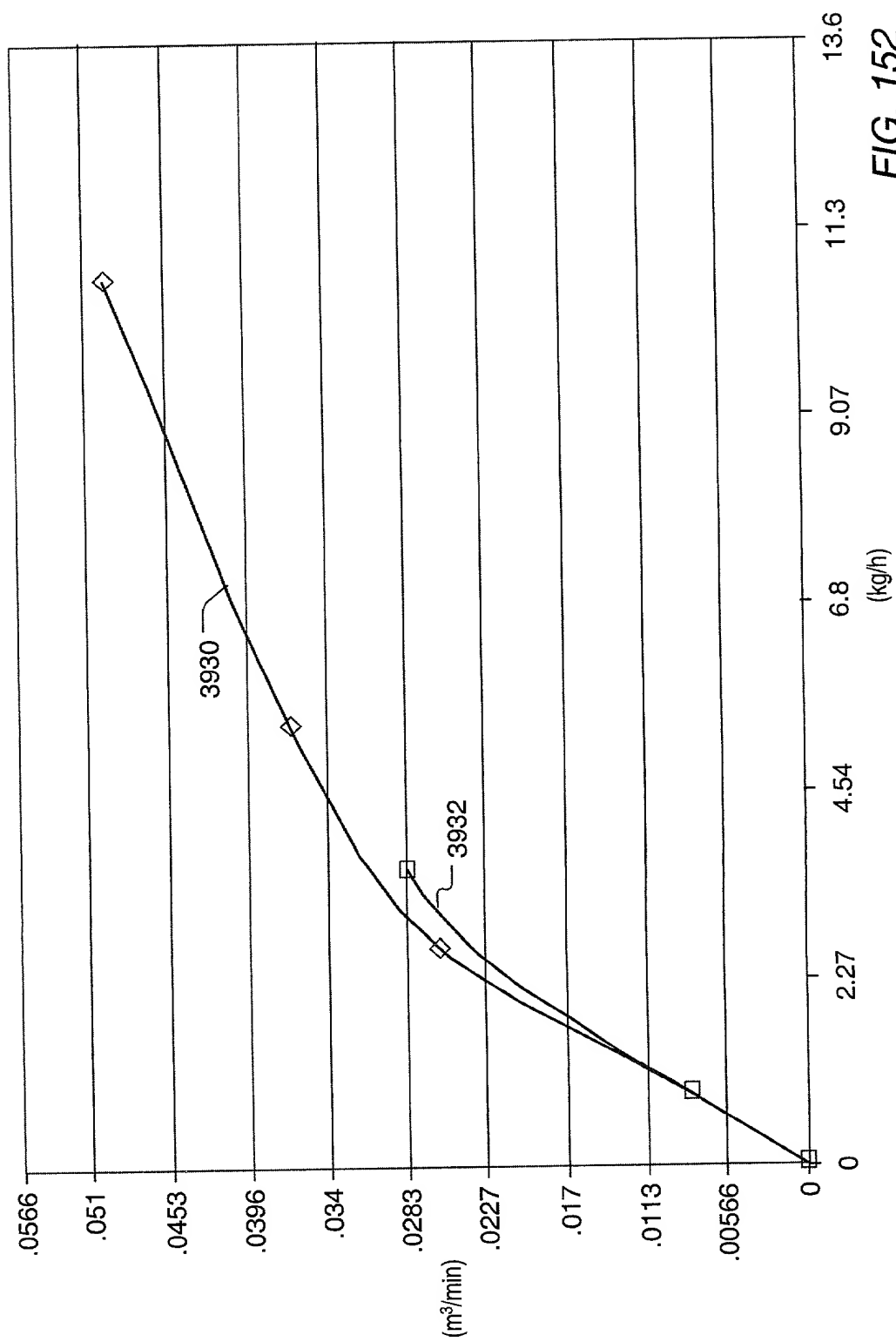


FIG. 152

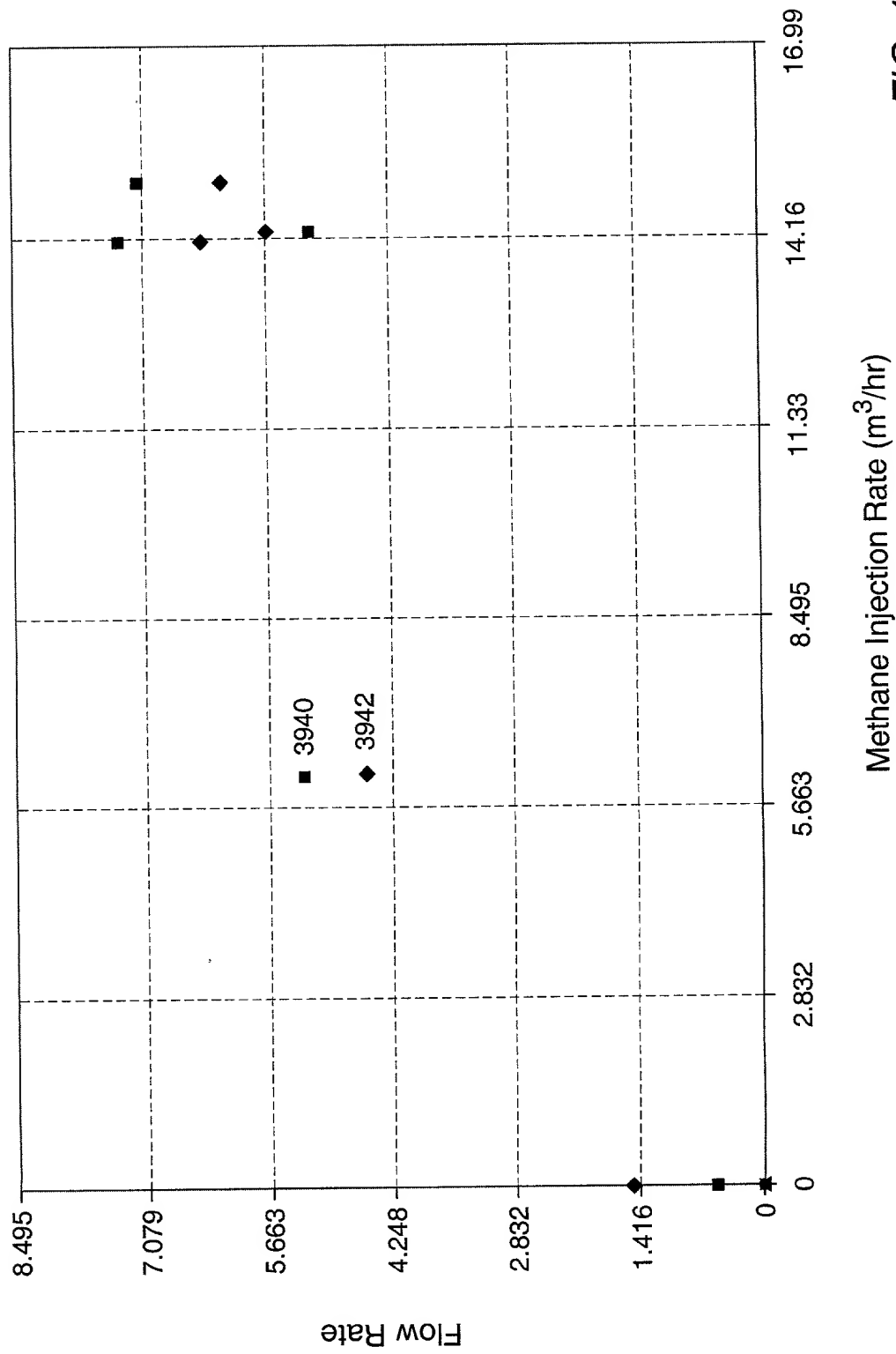


FIG. 153

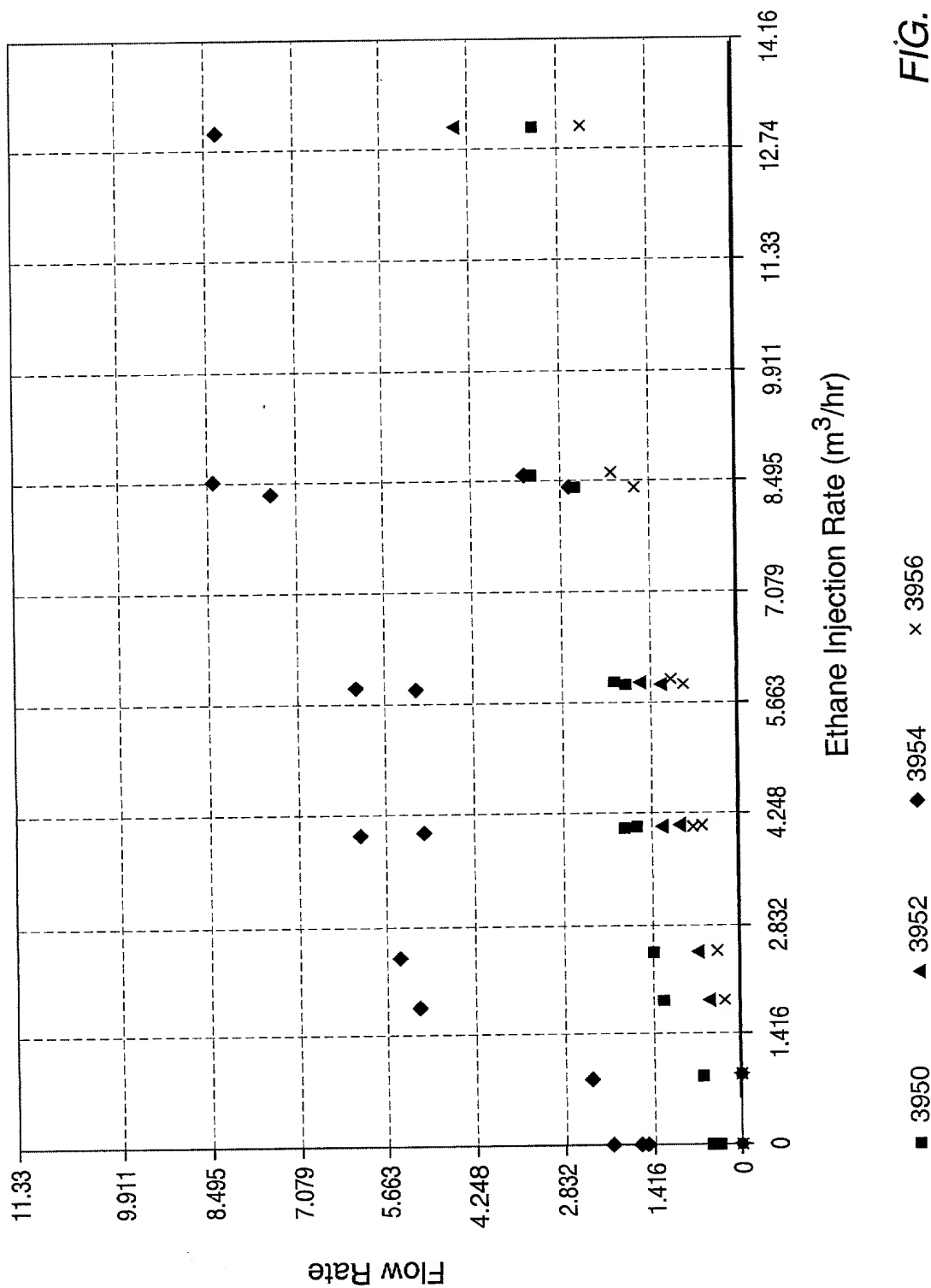


FIG. 154

Flow Rate vs. Propane Injection Rate

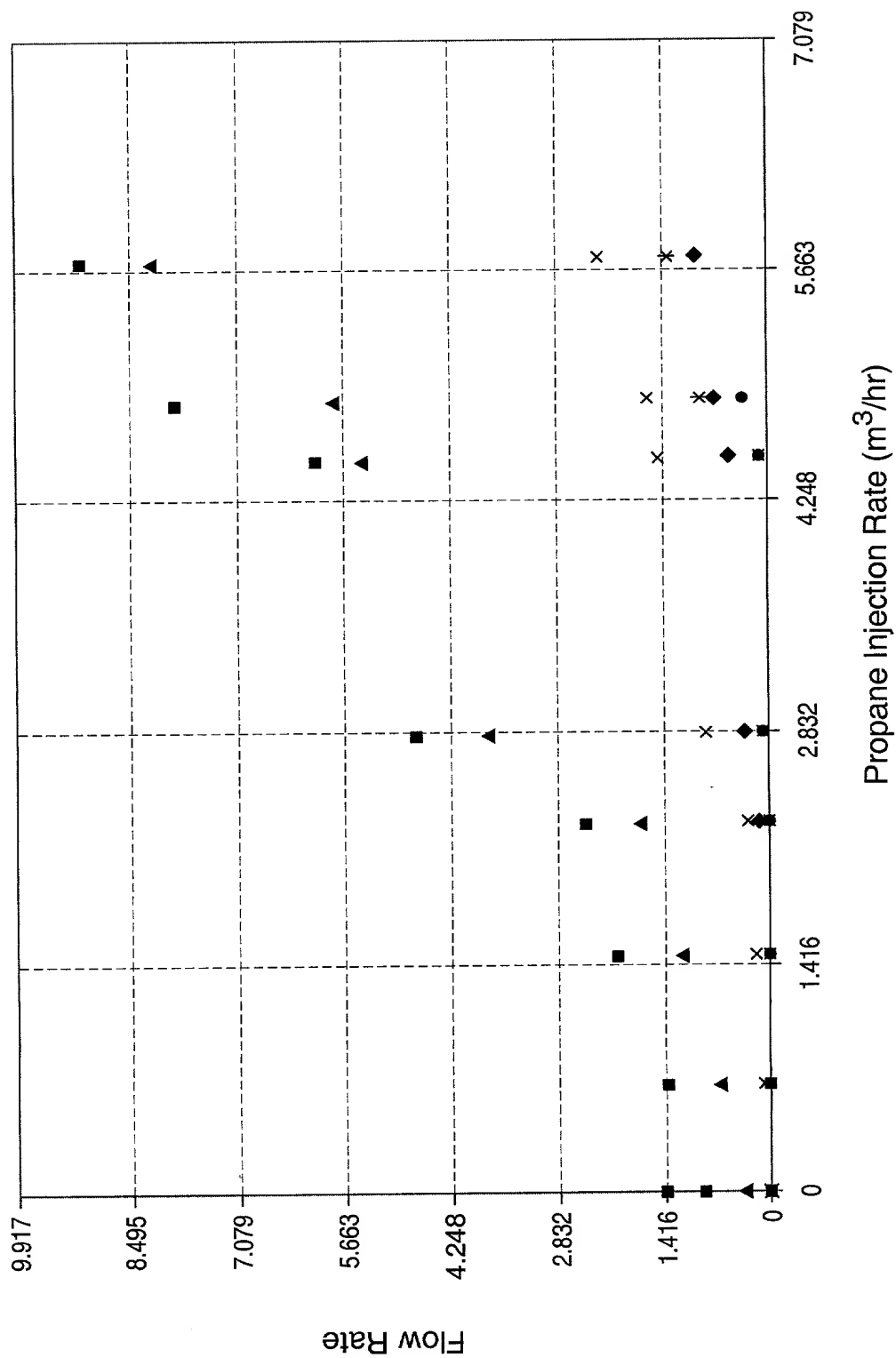
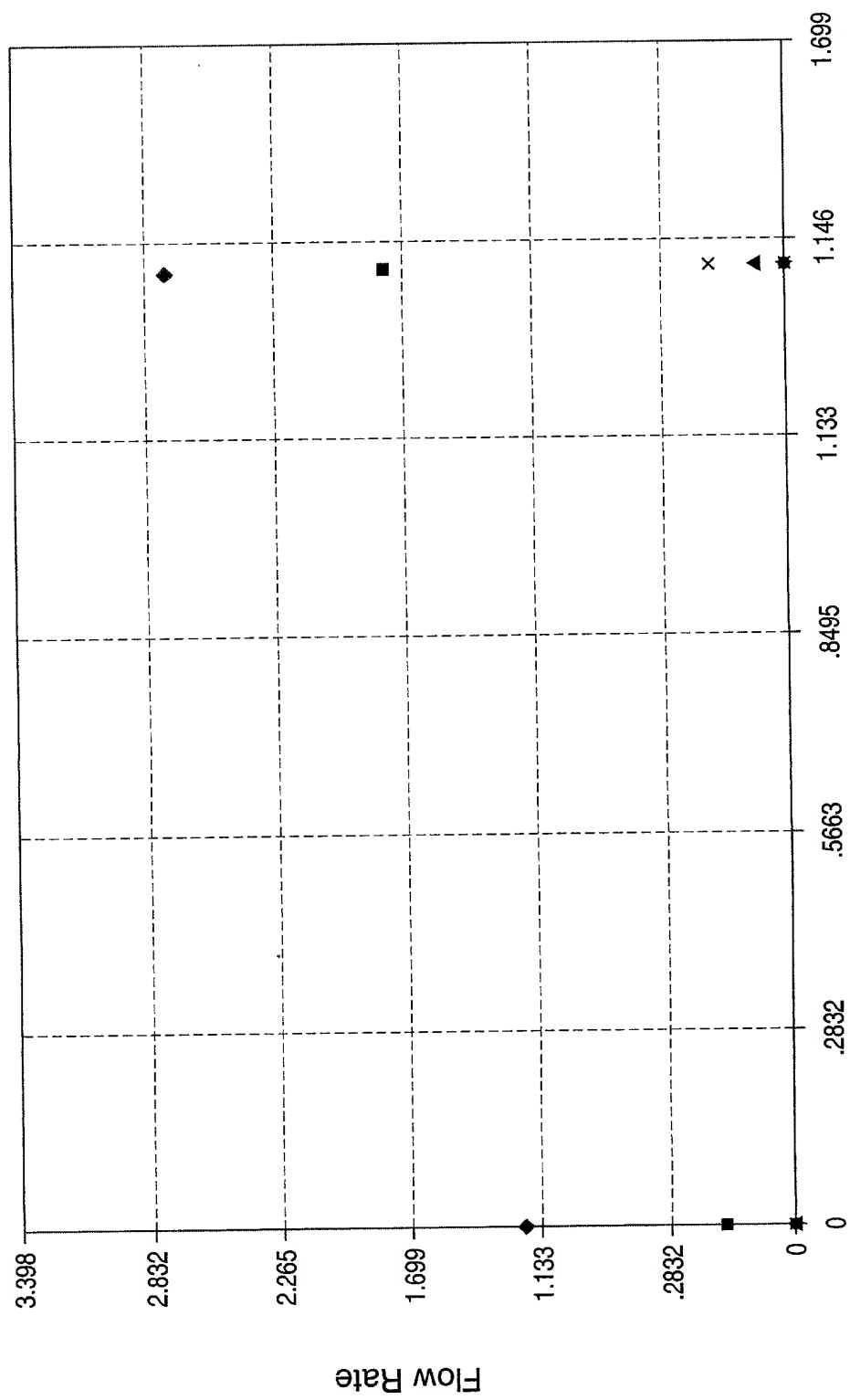


FIG. 155

Flow Rate vs. Butane Injection Rate



Butane Injection Rate (m³/hr)

FIG. 156

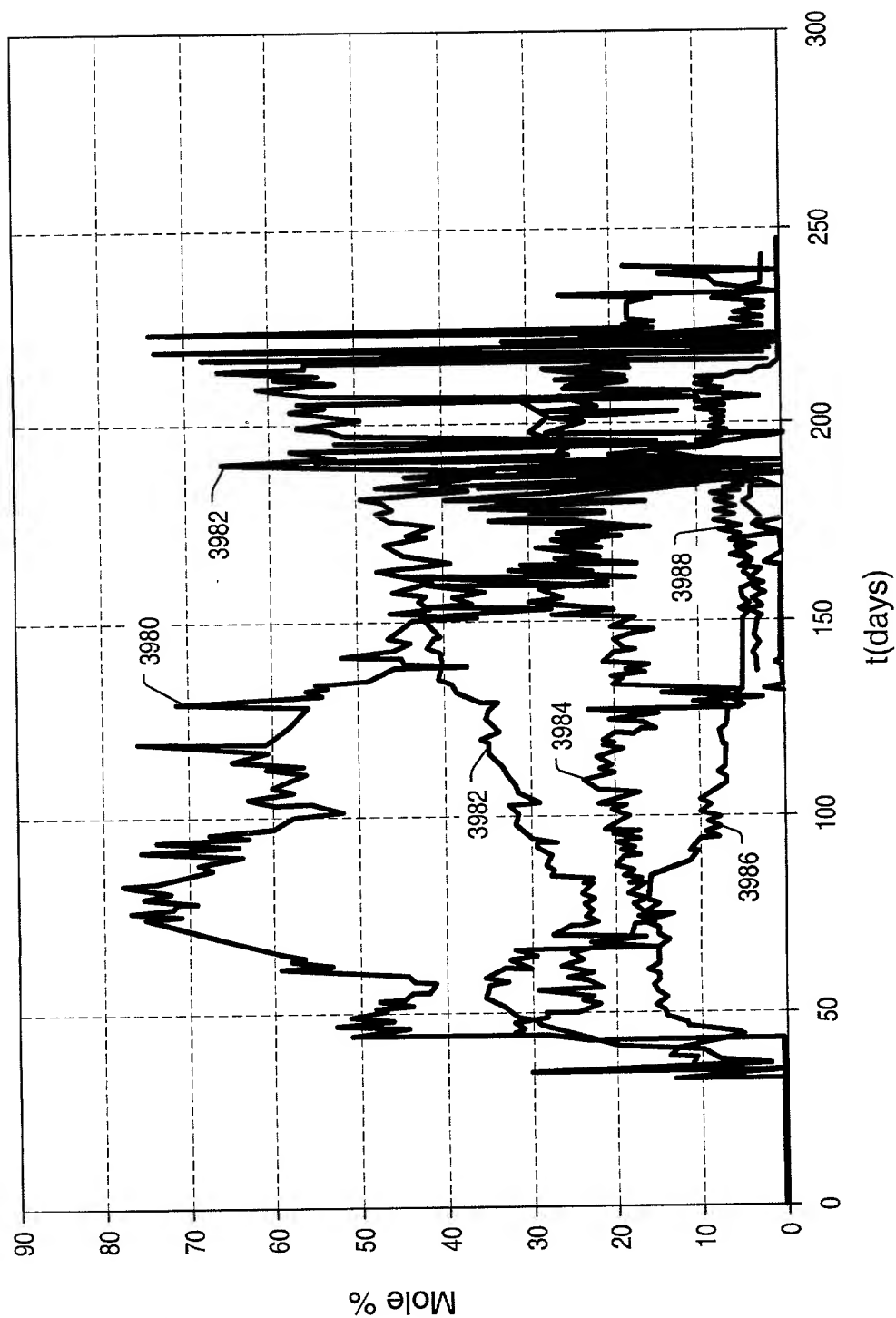


FIG. 157

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

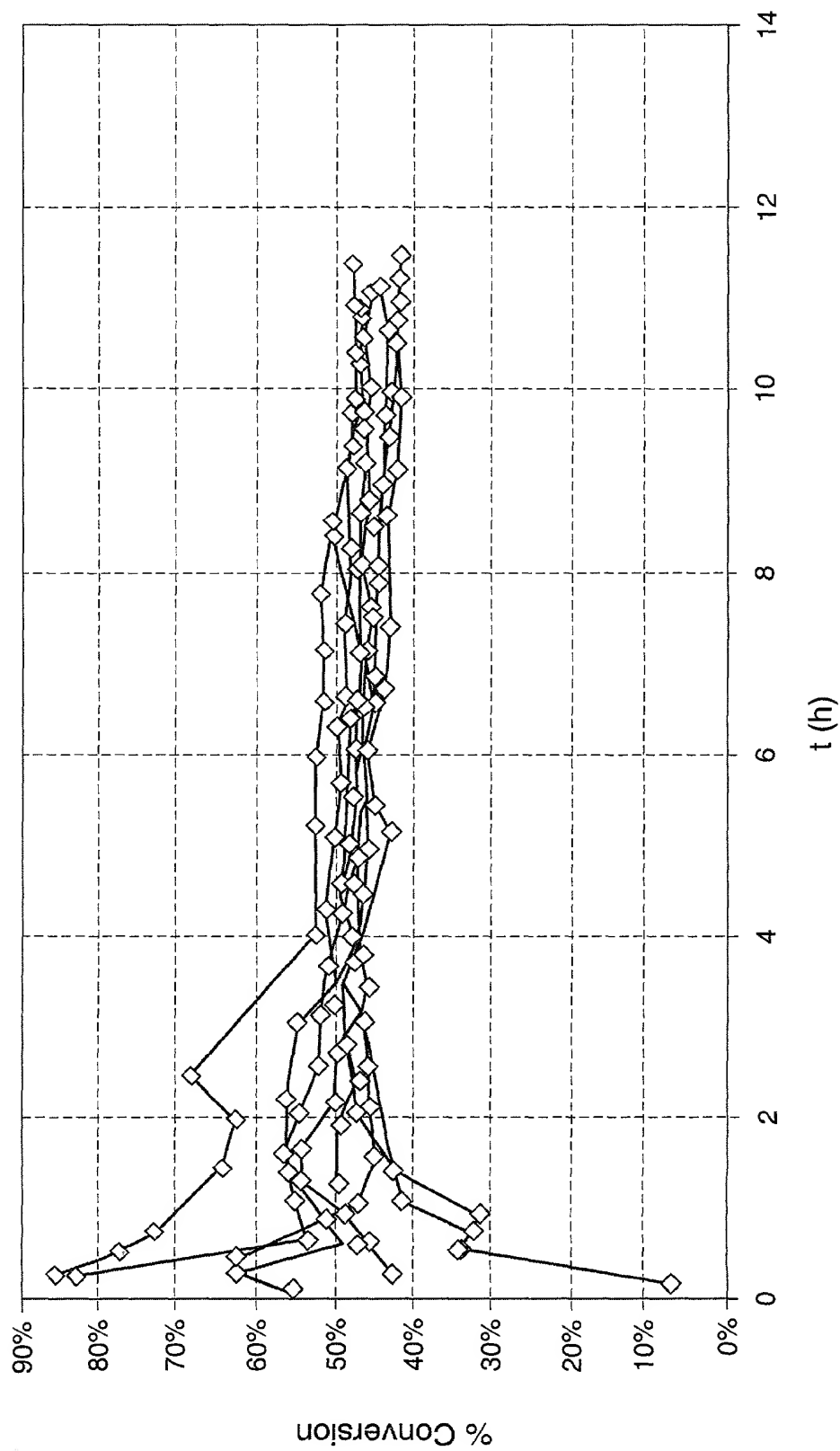


FIG. 158

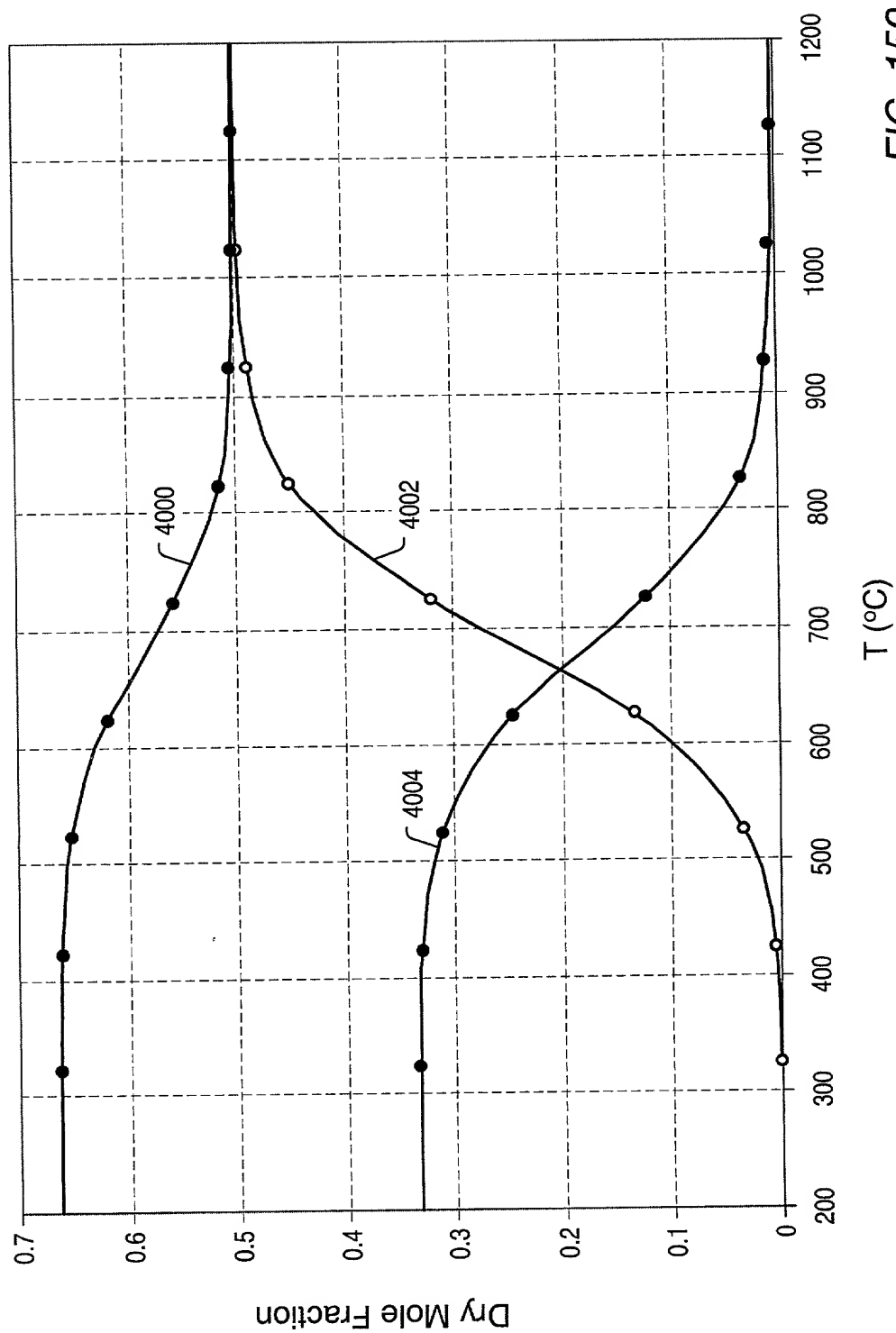


FIG. 159

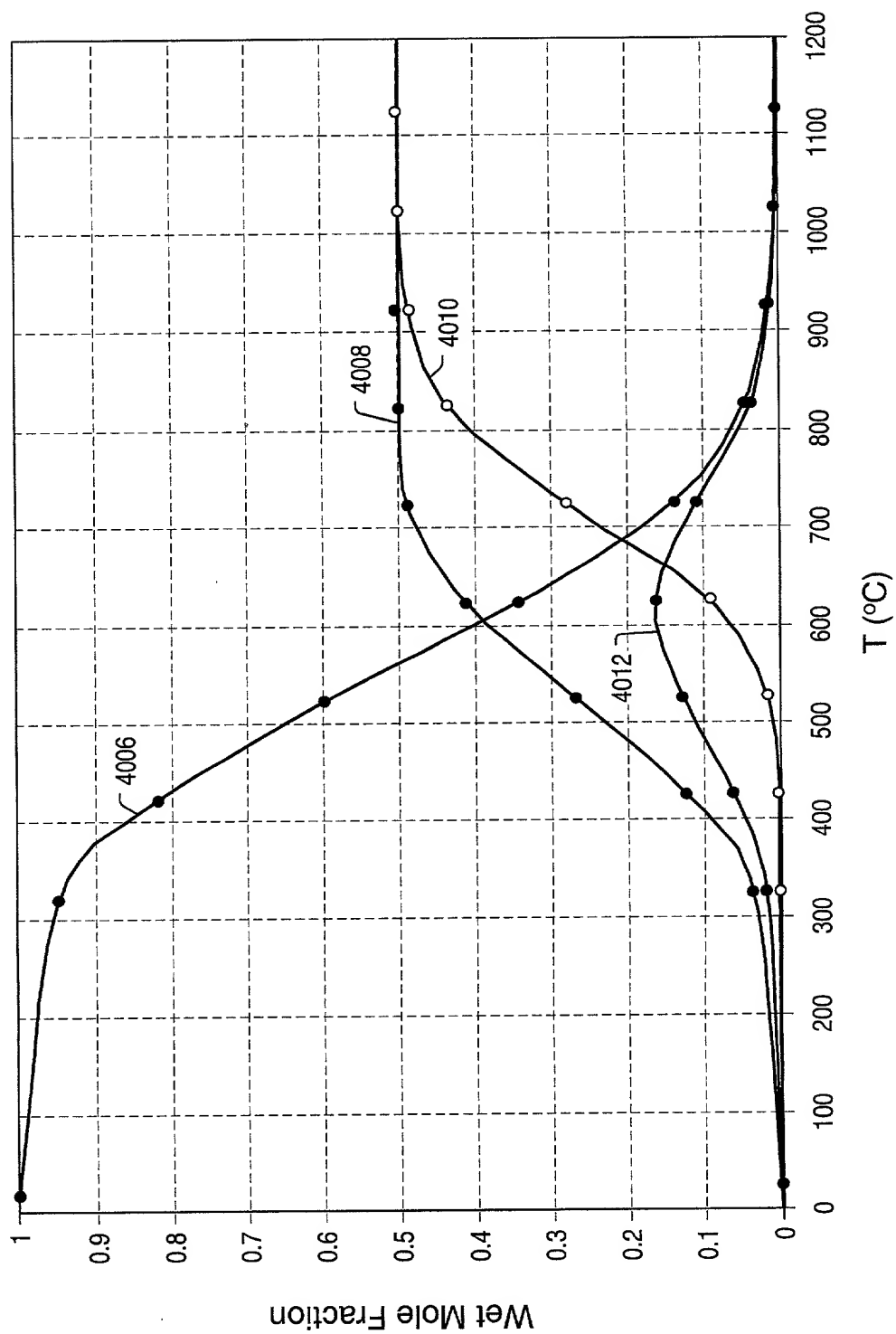
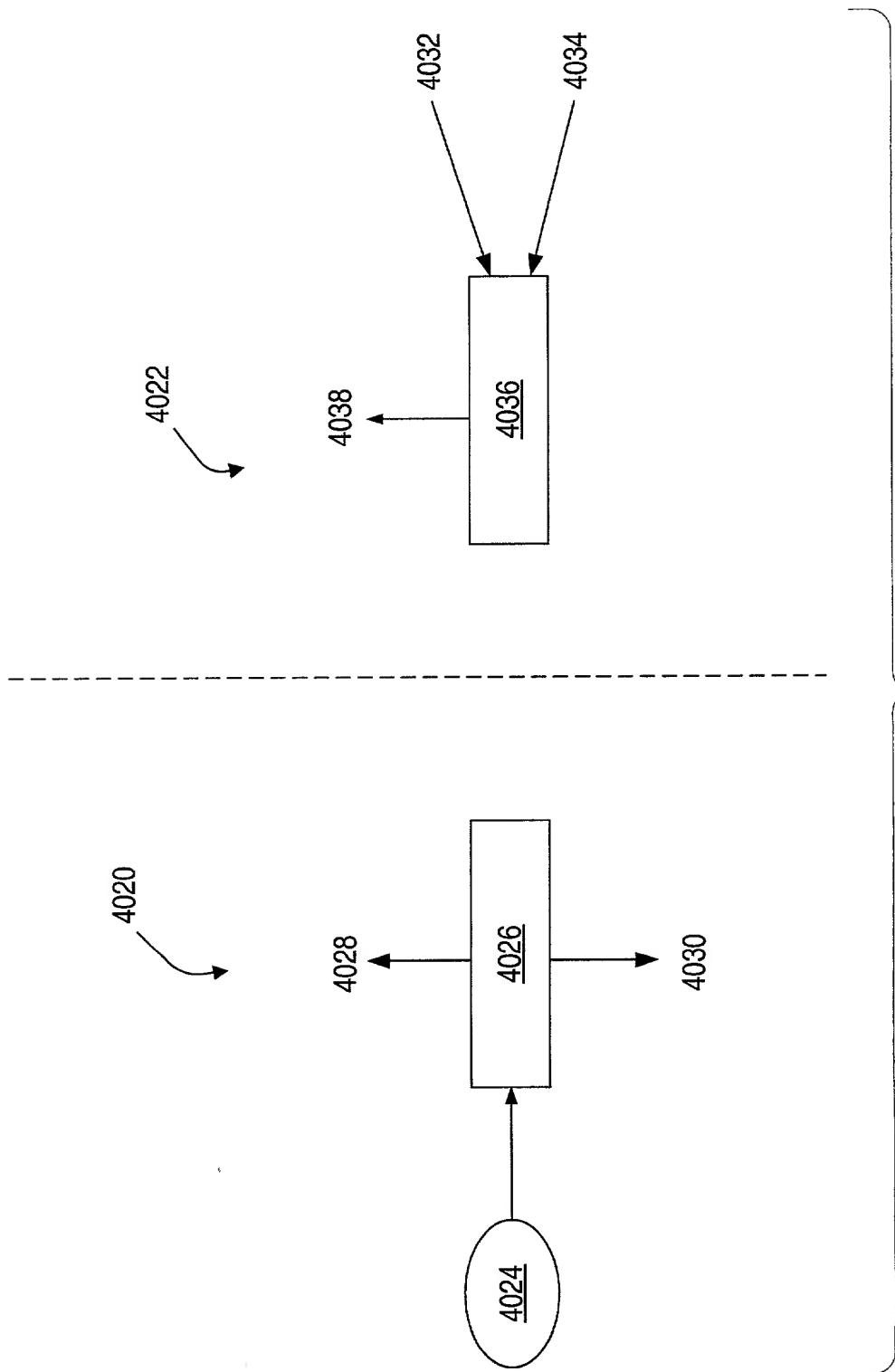


FIG. 160



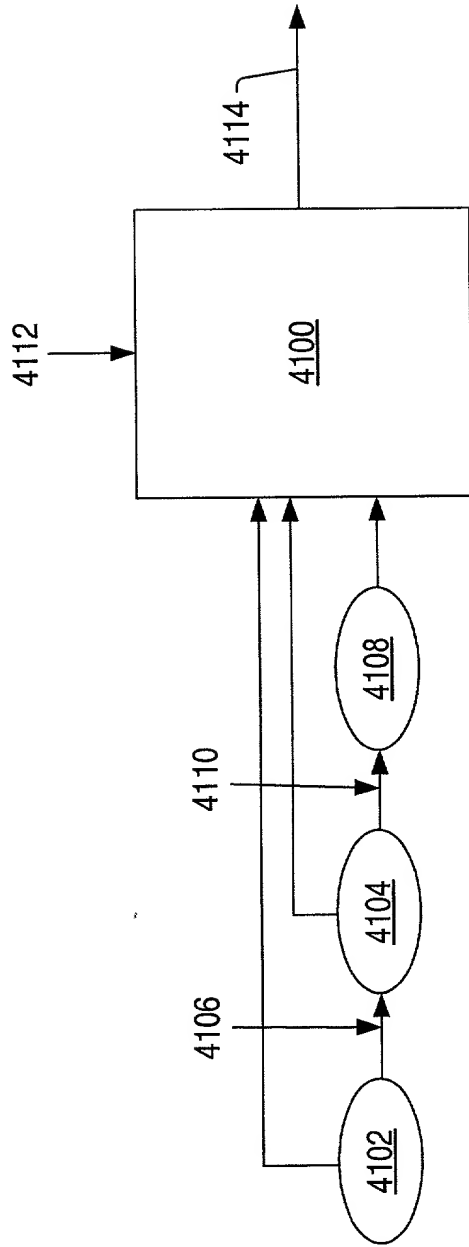


FIG. 162

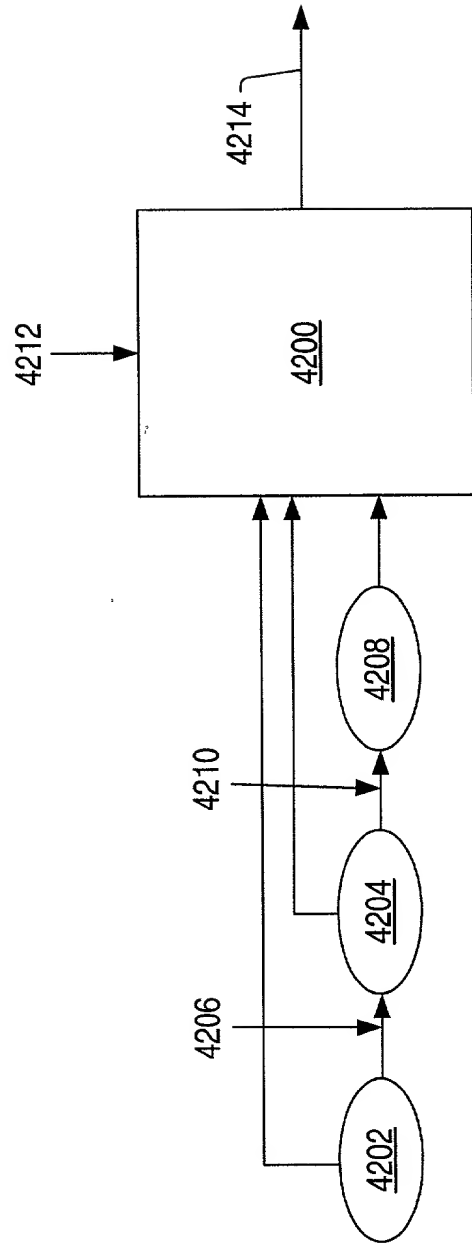


FIG. 163

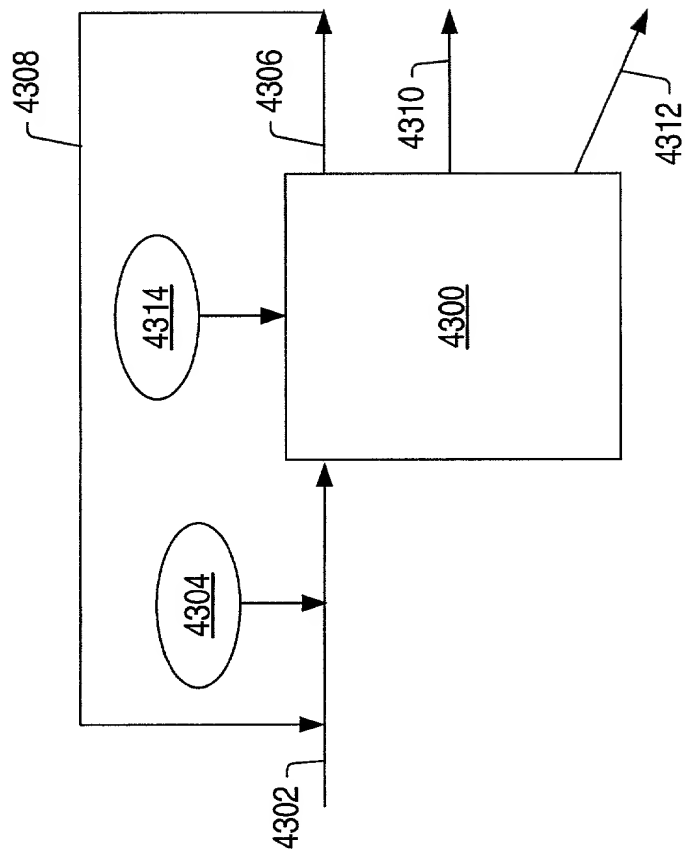


FIG. 164

184.33
 163.85
 143.37
 122.89
 102.41
 81.92
 61.44
 40.96
 20.48
 0.000

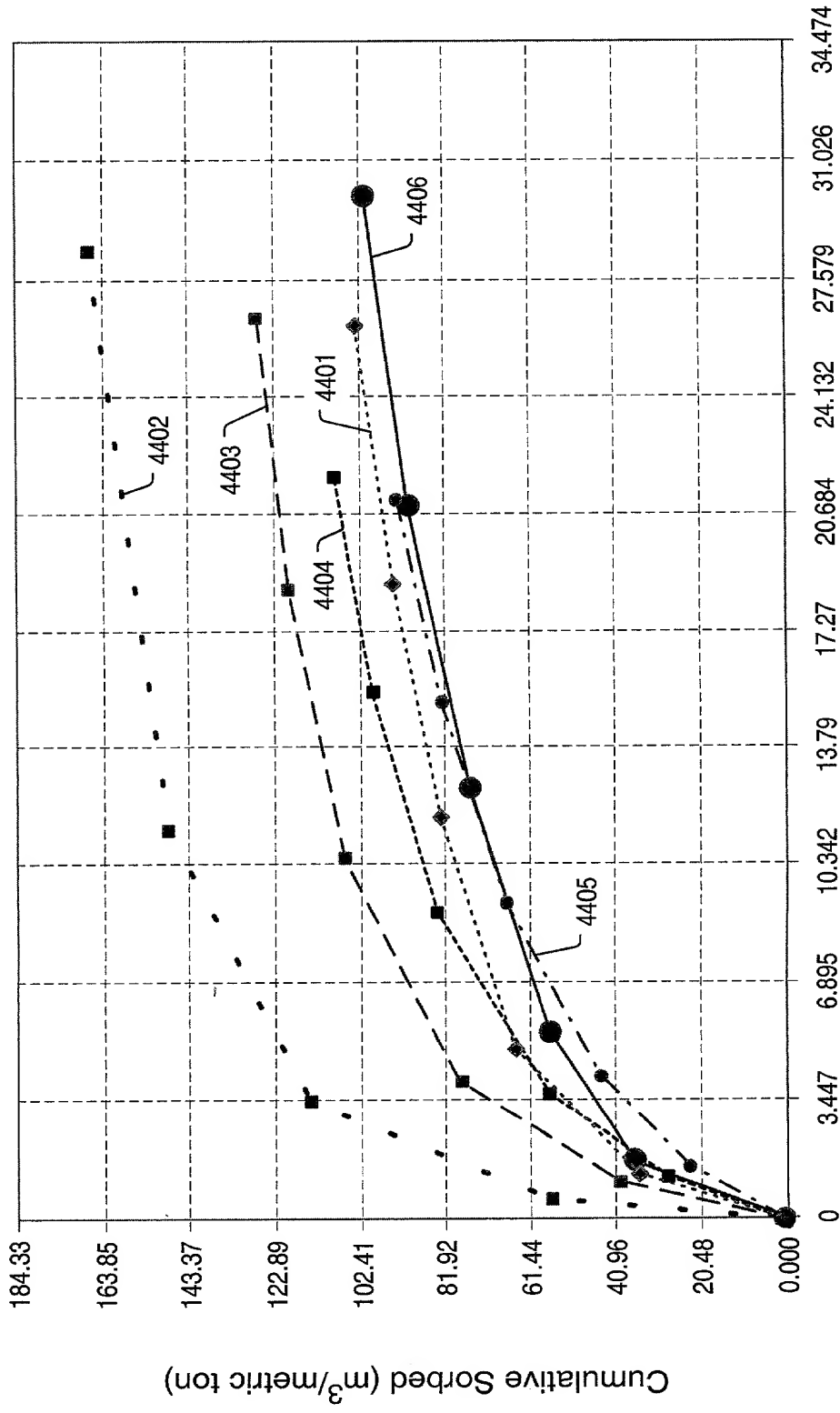


FIG. 165

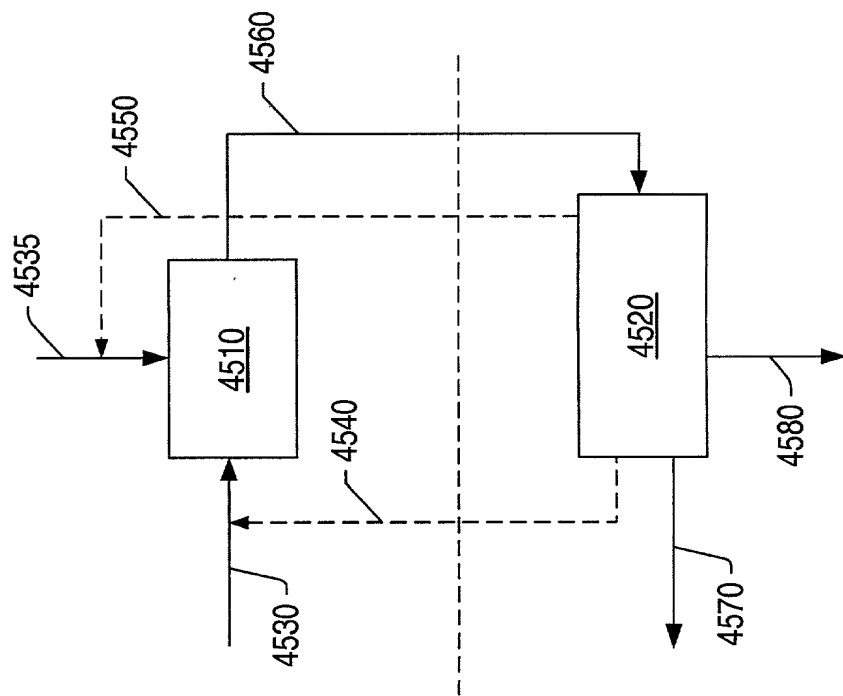


FIG. 166

FIG. 167

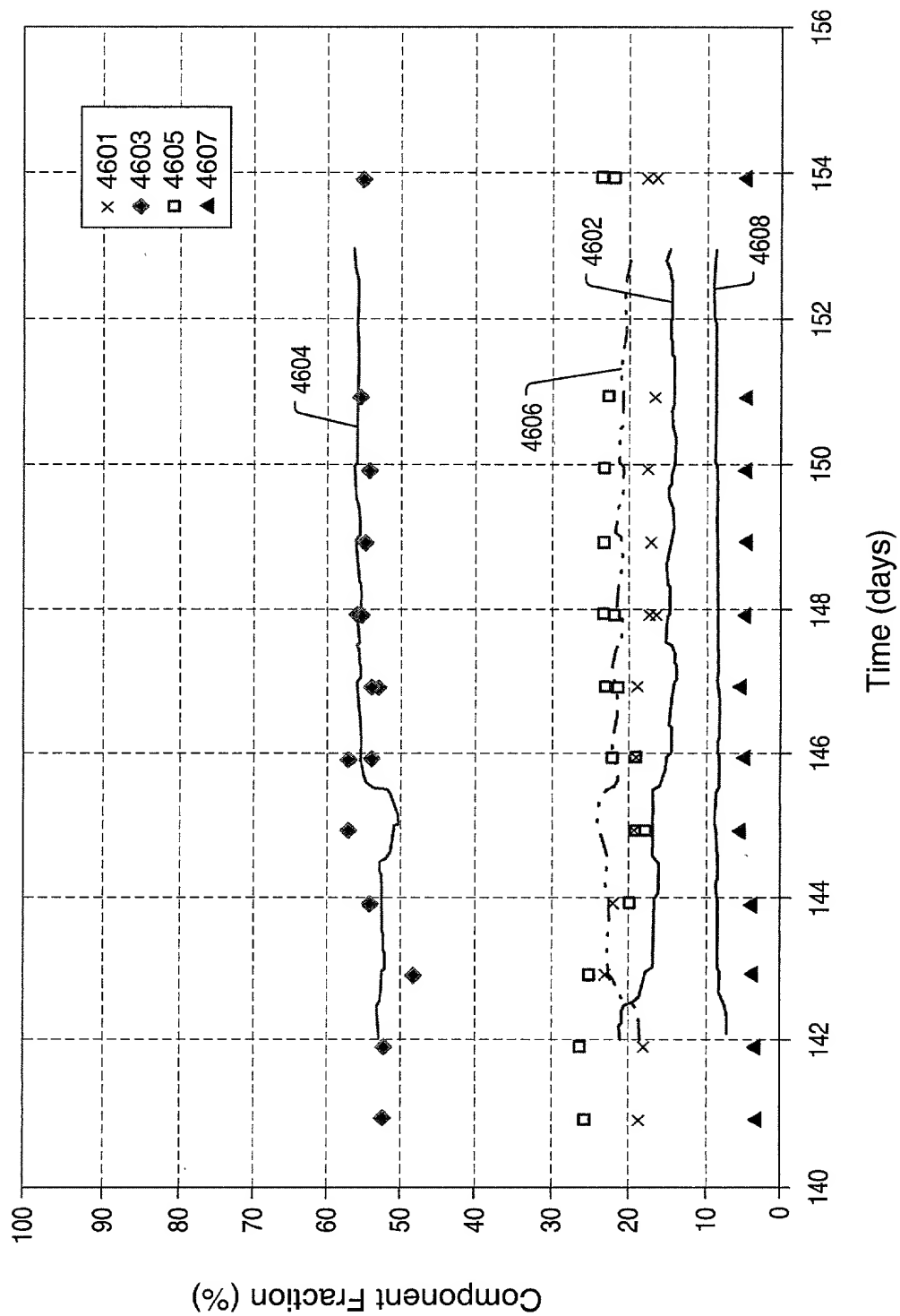


FIG. 167

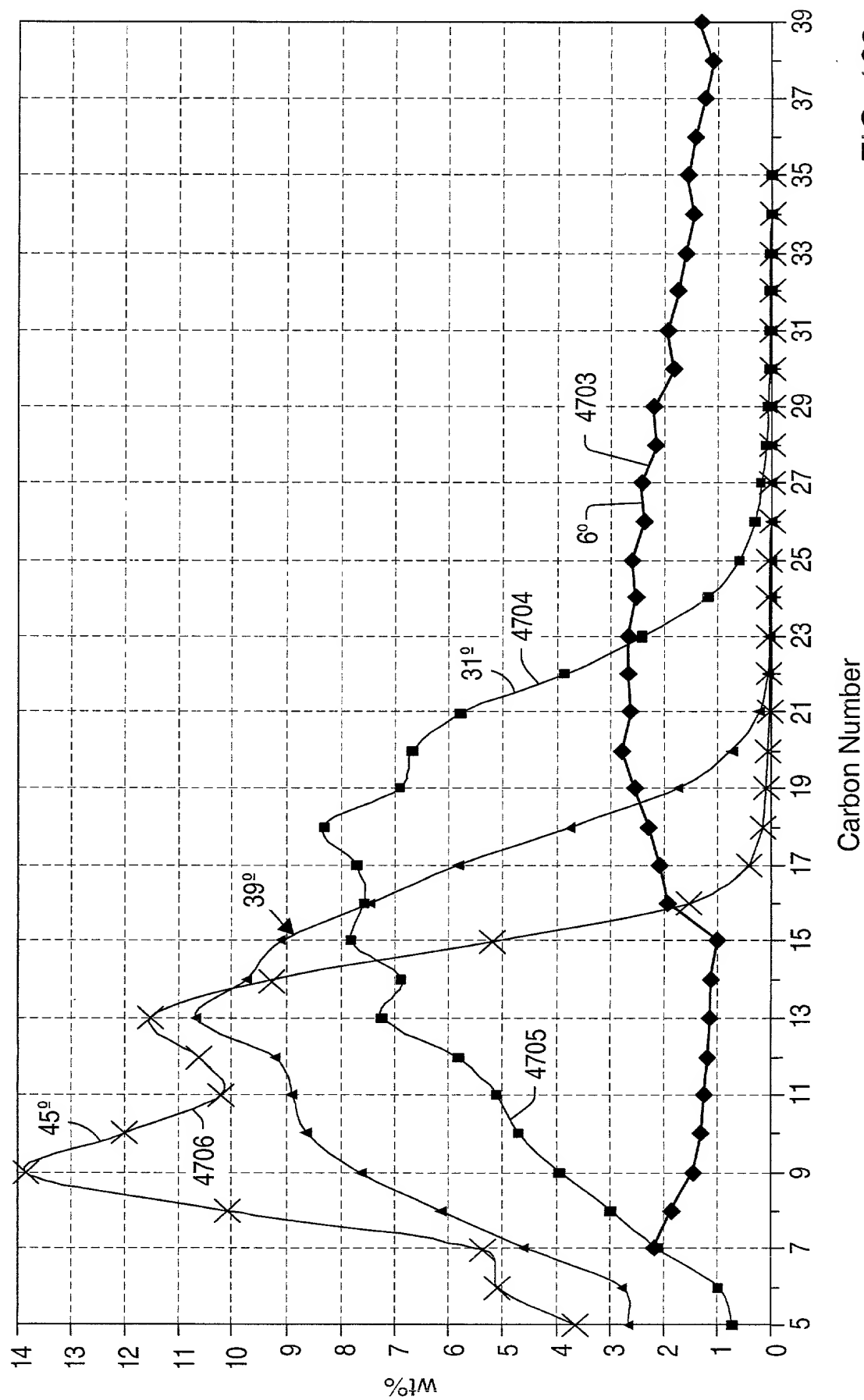


FIG. 168

FIG. 169

FIG. 170

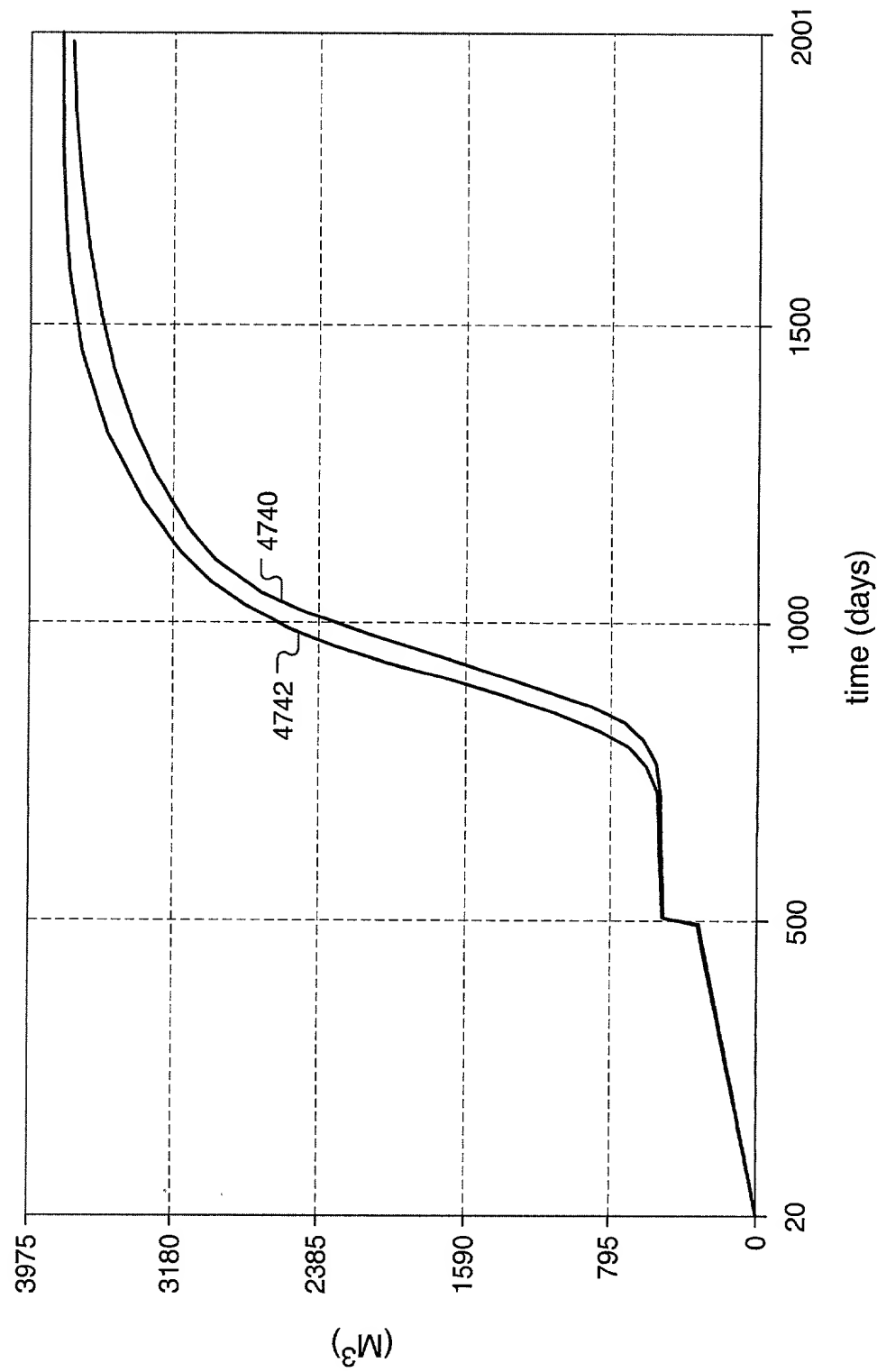


FIG. 170

FIG. 171

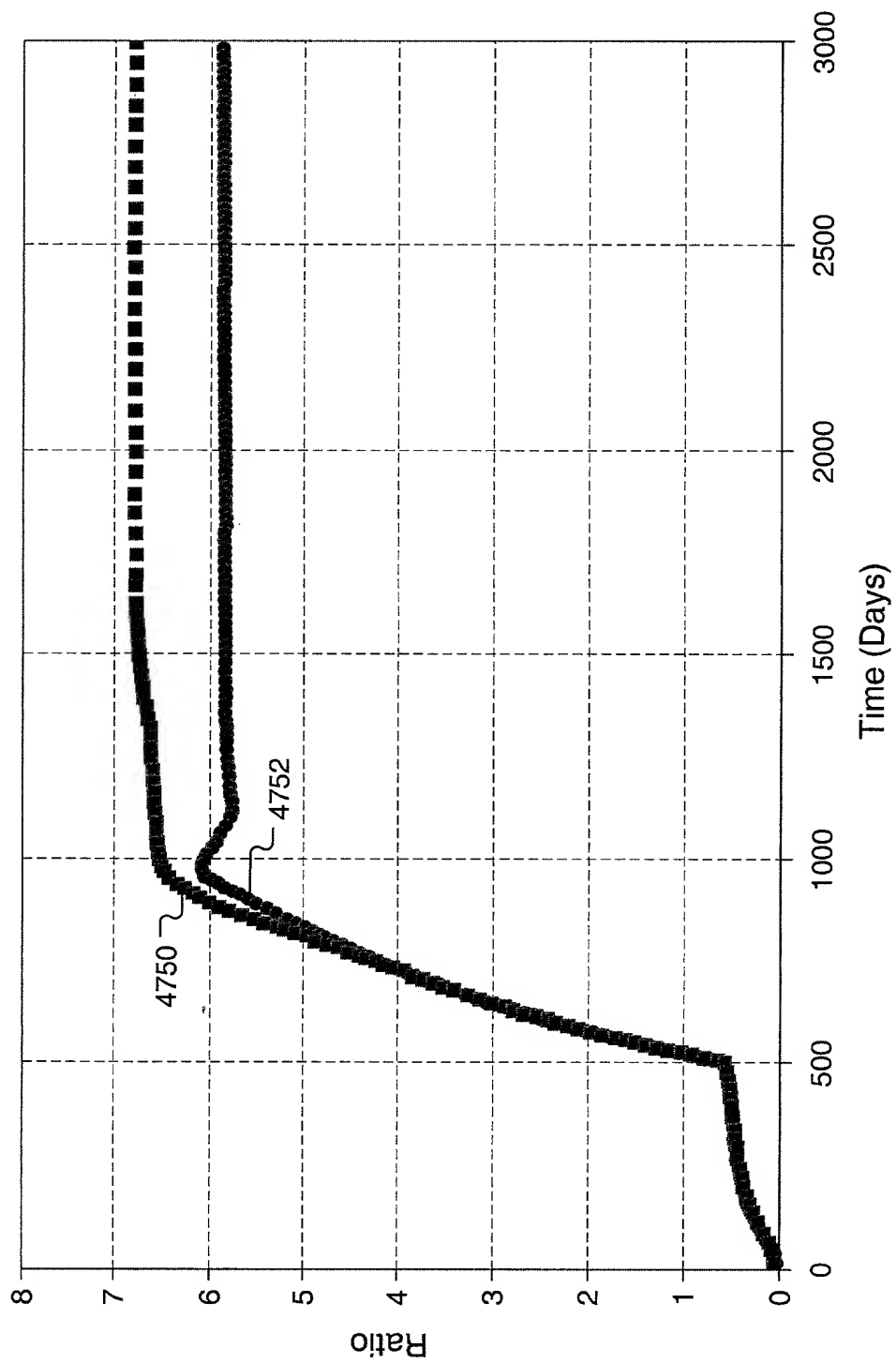


FIG. 171

FIG. 172

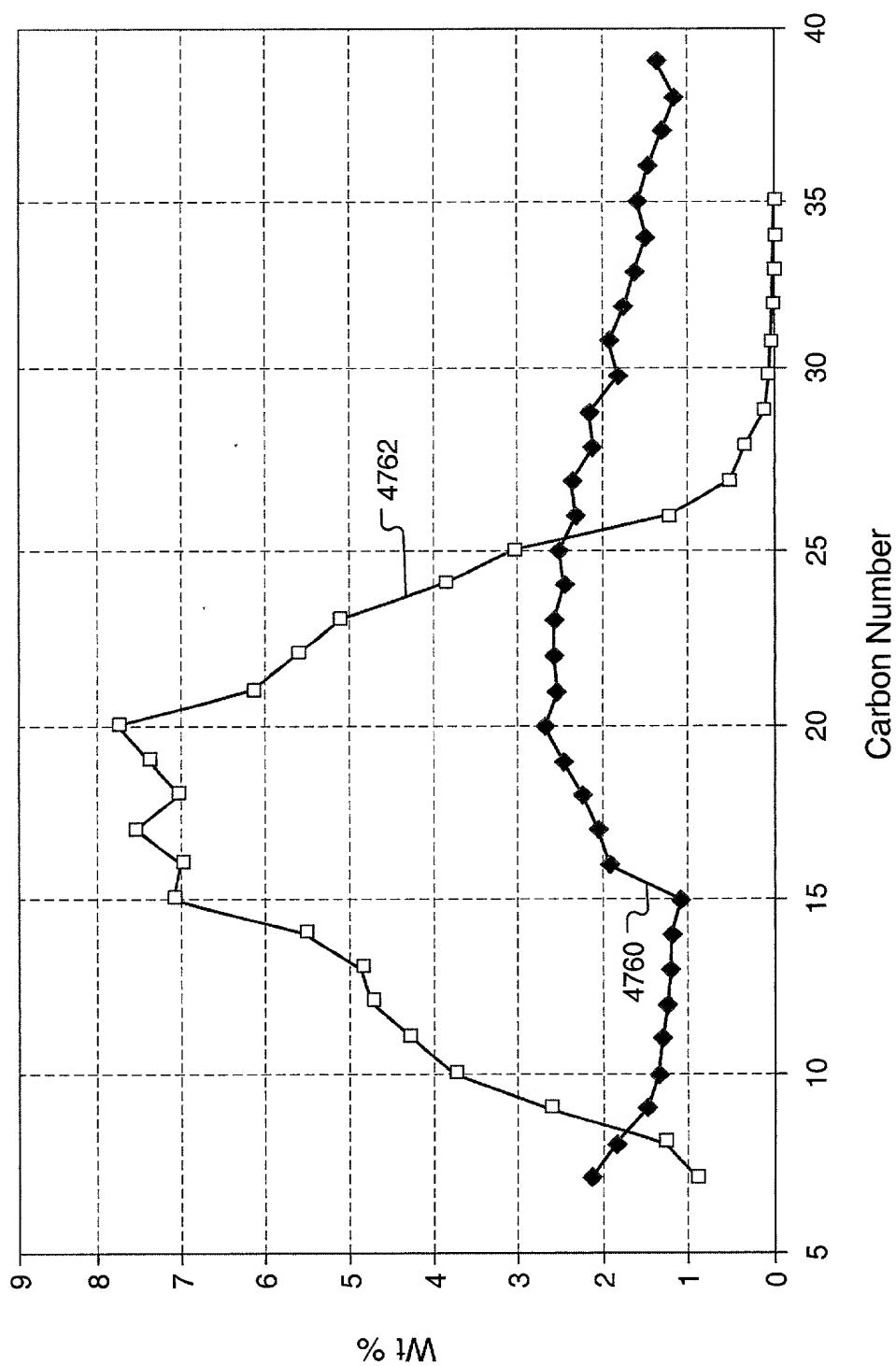


FIG. 172

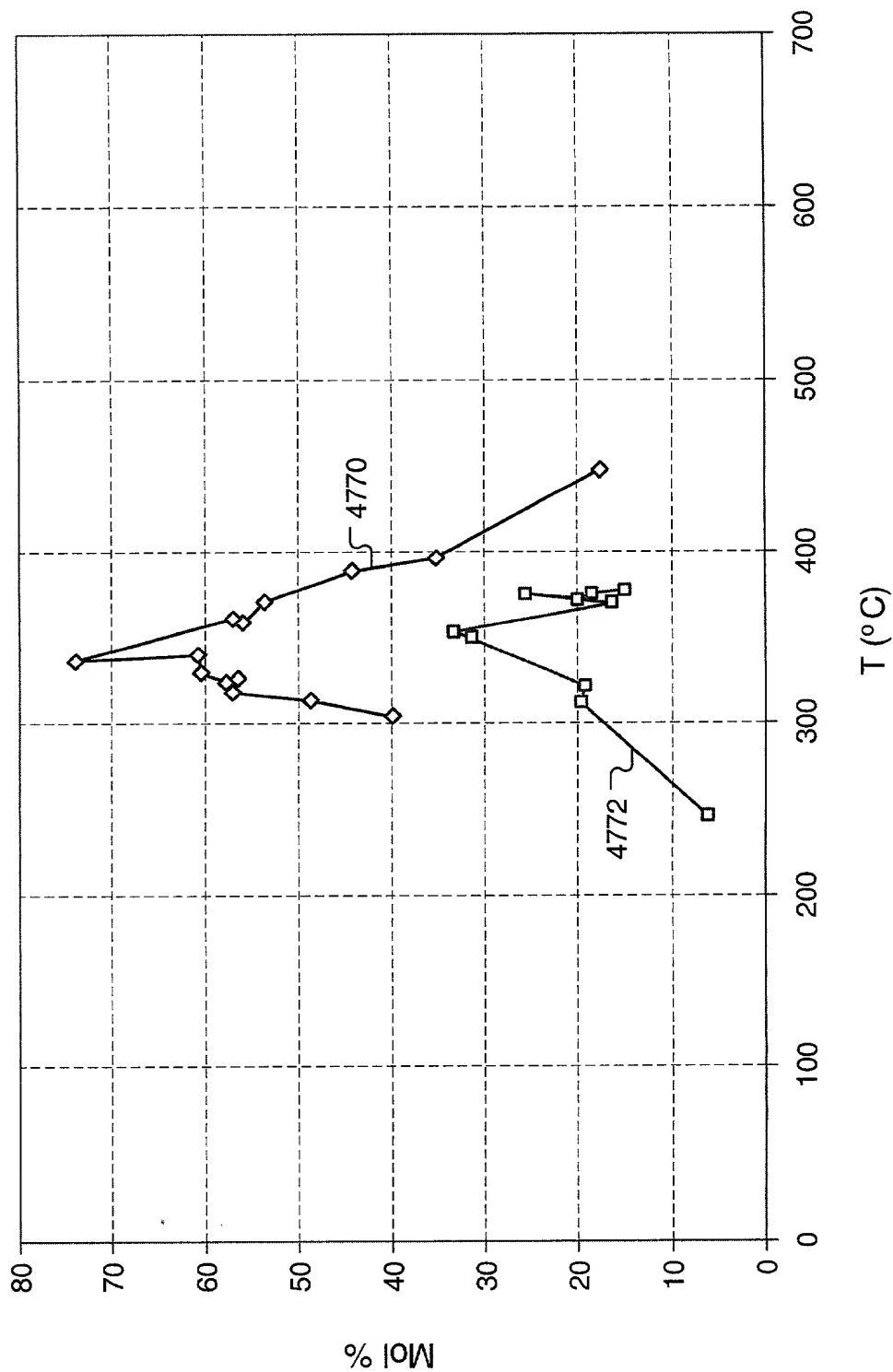


FIG. 173

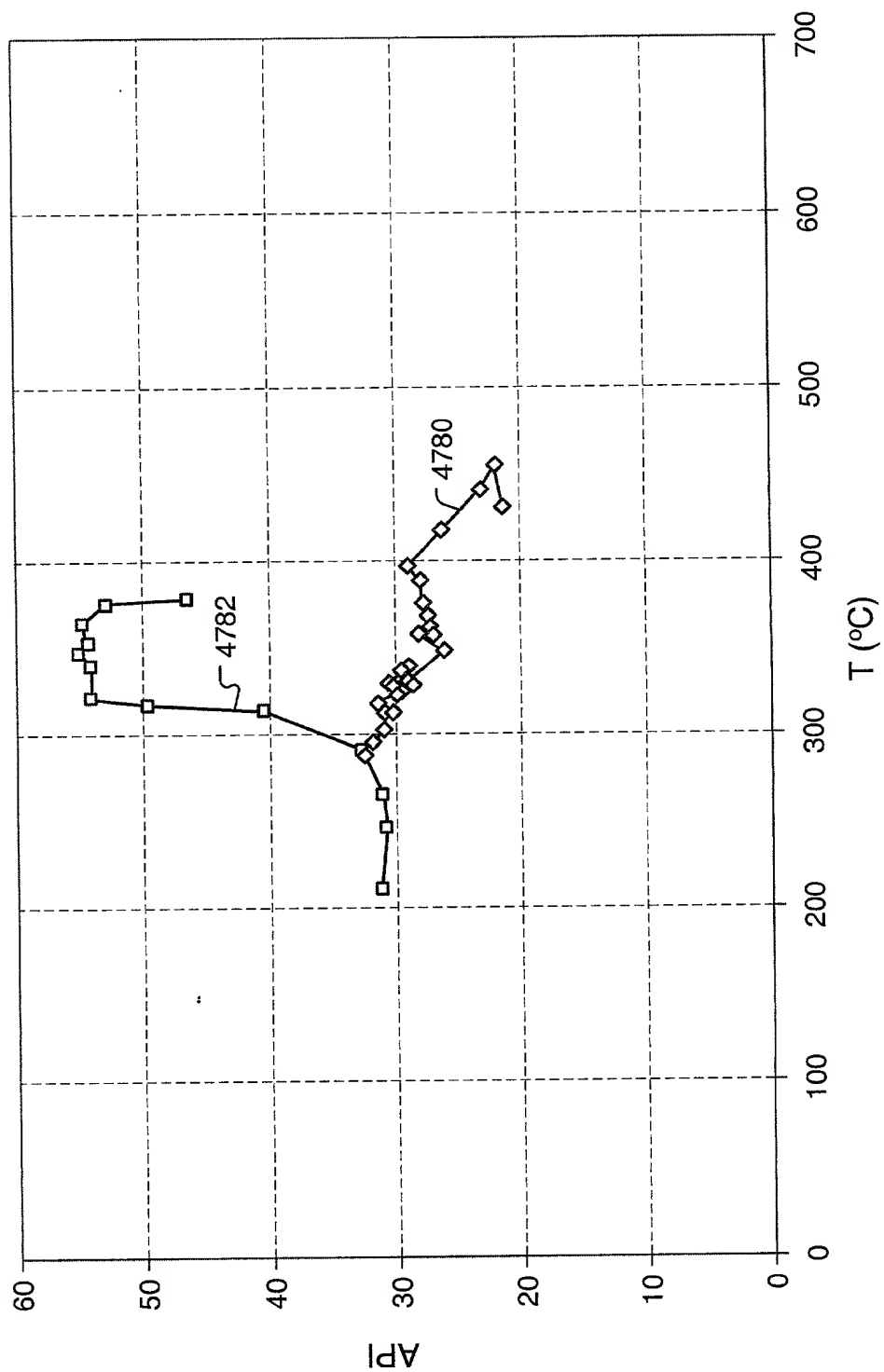
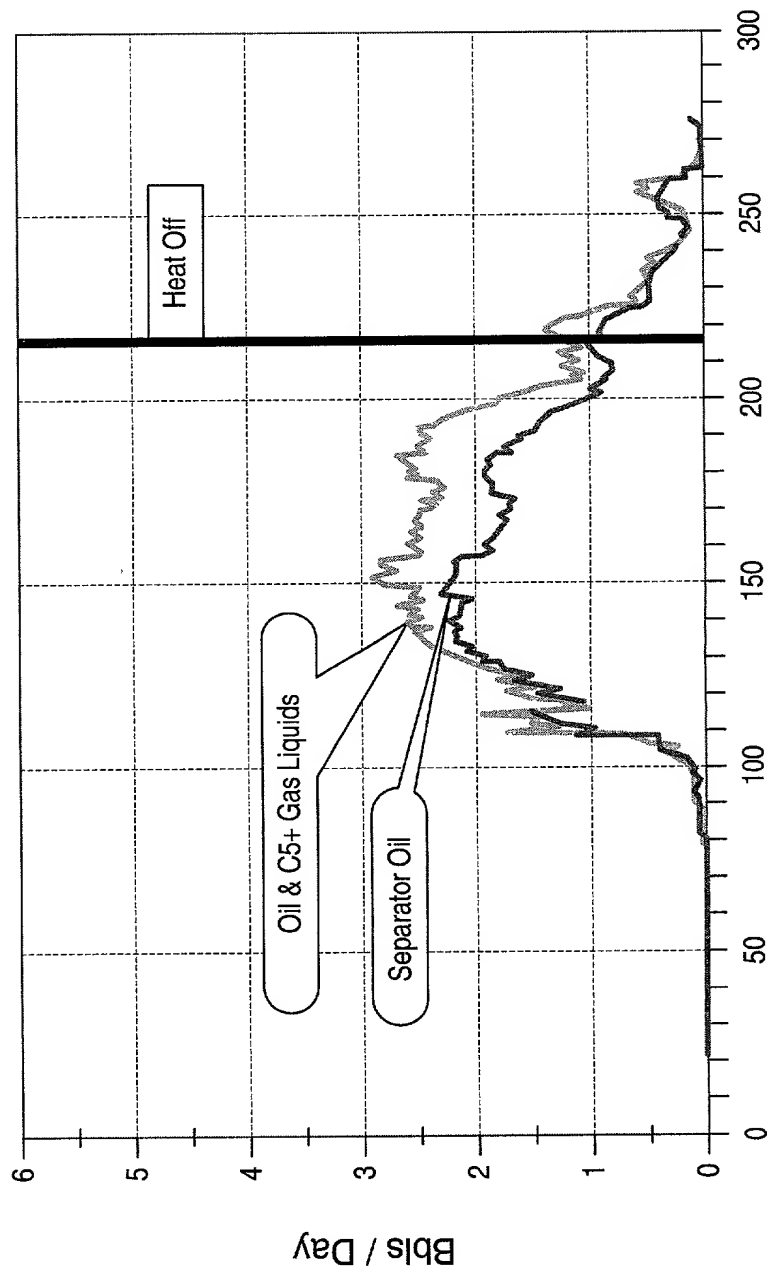


FIG. 174

FIG. 175 is a graph showing the flow rate of oil and gas liquids and separator oil over time. The y-axis is labeled "Bbls / Day" and ranges from 0 to 6. The x-axis is labeled "Days From Start of Heat Injection" and ranges from 0 to 300. A vertical line at approximately day 200 is labeled "Heat Off". Two data series are plotted: "Oil & C5+ Gas Liquids" (represented by a solid line) and "Separator Oil" (represented by a dashed line). Both series show a sharp increase in flow rate around day 100, peaking around day 150, and then gradually declining. The "Oil & C5+ Gas Liquids" flow rate is consistently higher than the "Separator Oil" flow rate.



Days From Start of Heat Injection

FIG. 175

FIG. 176 is a graph showing the production of hydrocarbon liquids, gas, and water from a well over a period of 600 hours. The y-axis represents the production rate in barrels per day (Bbls/Day) for hydrocarbon liquids and gas, and in millions of cubic feet per day (MCF/Day) for water. The x-axis represents time in hours. A vertical line at approximately 420 hours indicates when the heat was turned off. The graph shows that production of hydrocarbon liquids and gas is highest during the heating period and decreases after the heat is turned off. Production of water is relatively constant throughout the period.

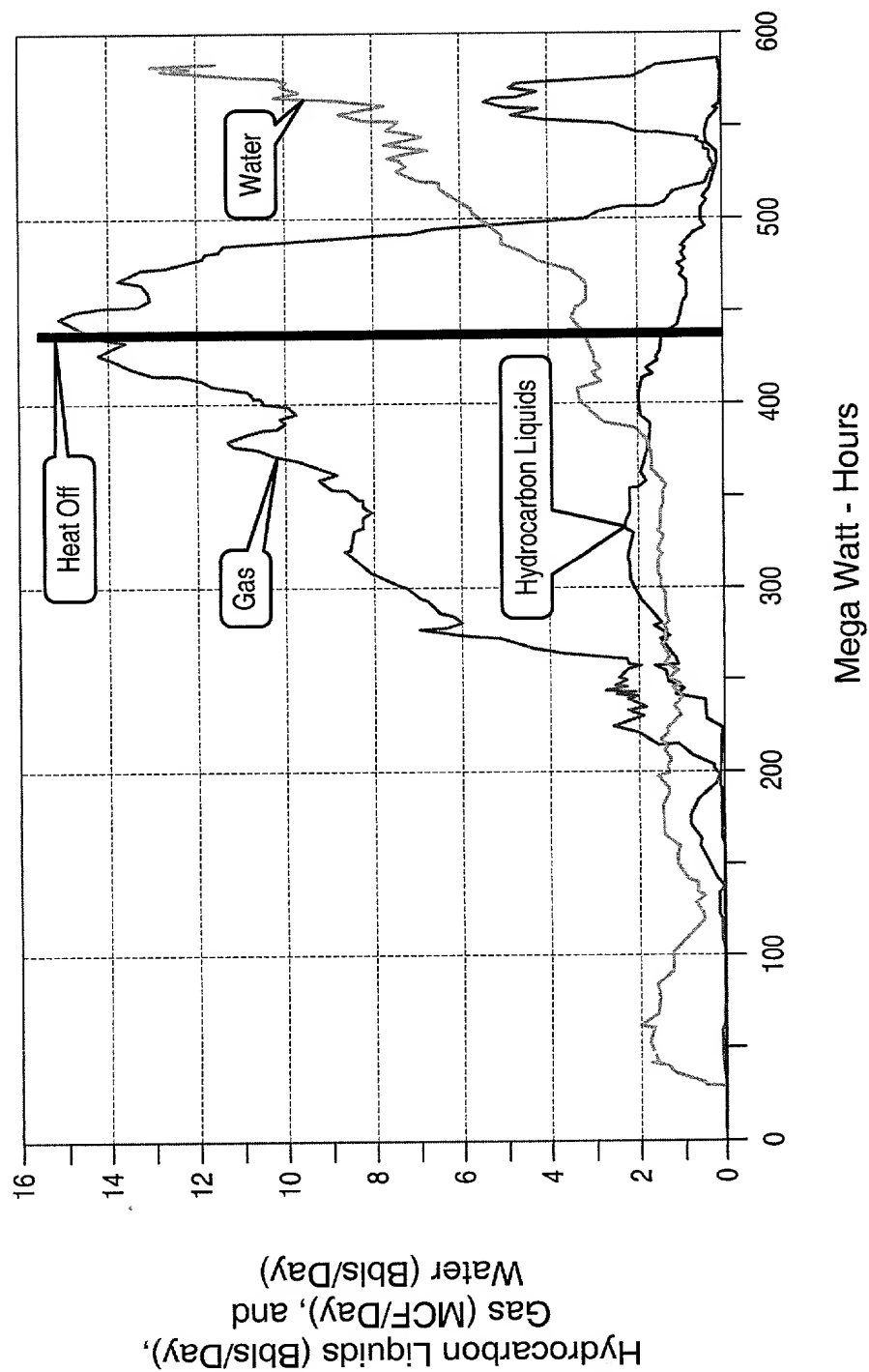


FIG. 176

Pressure (bars absolute)

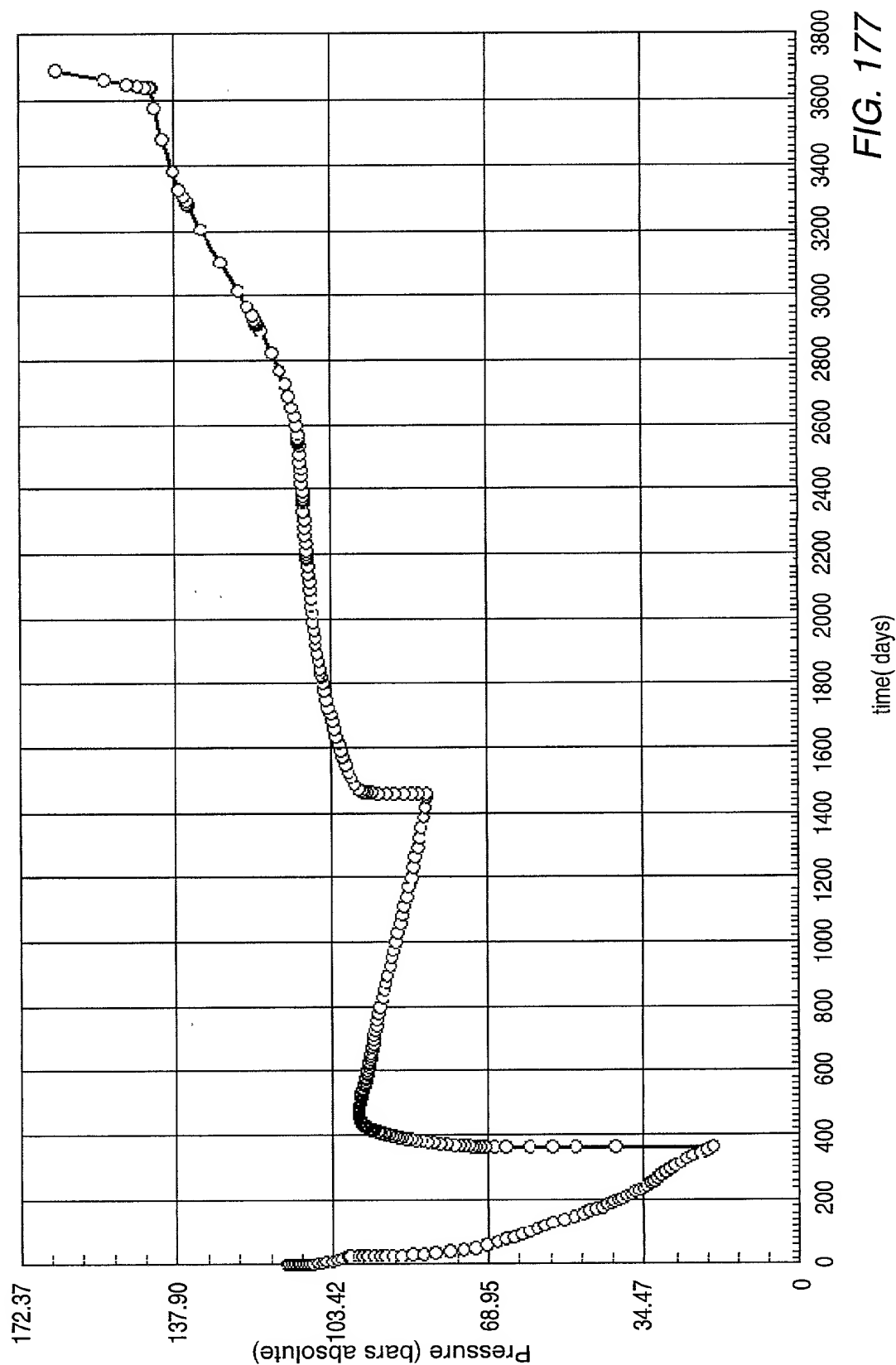


FIG. 177

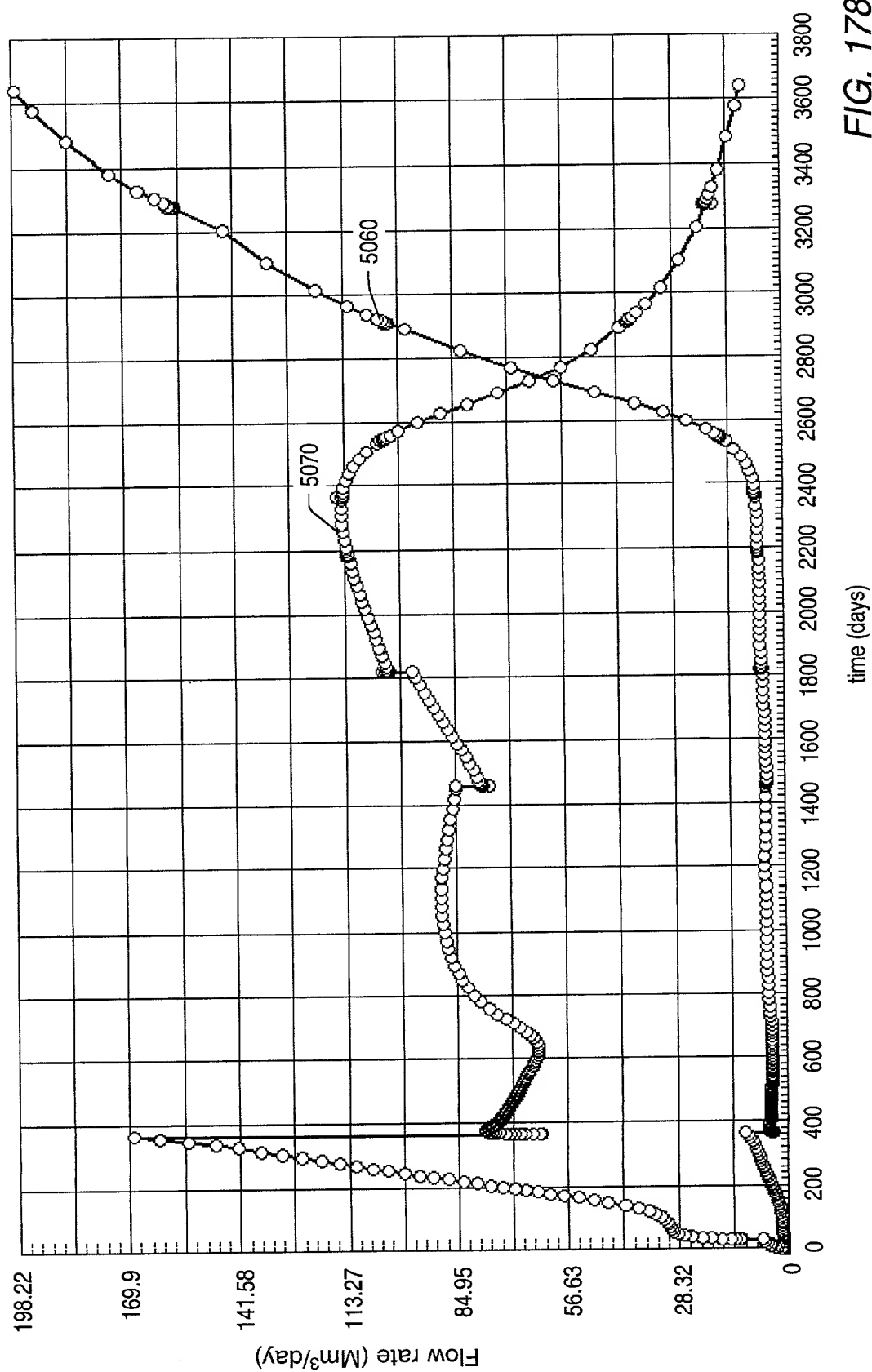


FIG. 178

FIG. 179

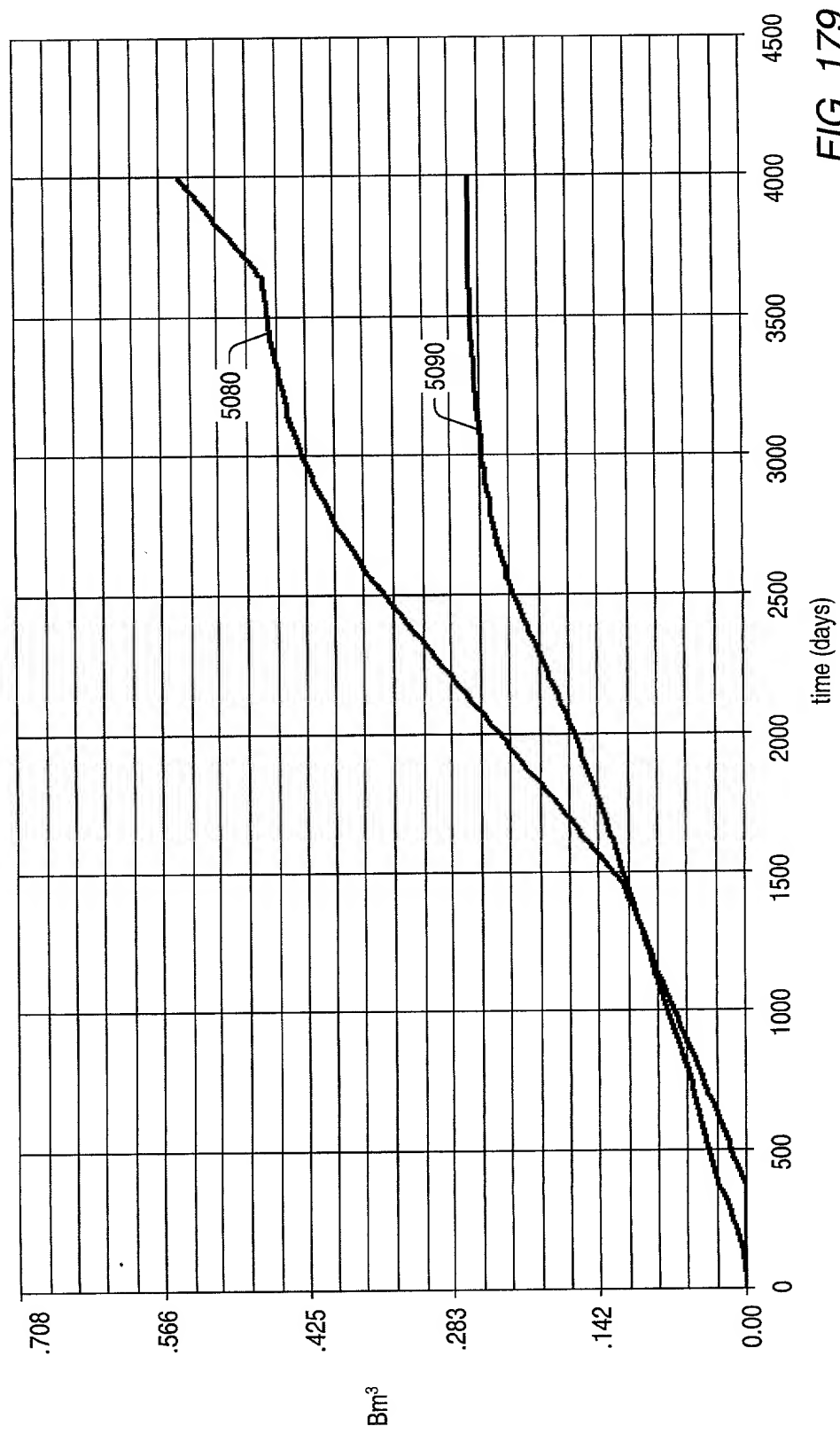


FIG. 179

Pressure (bars absolute)

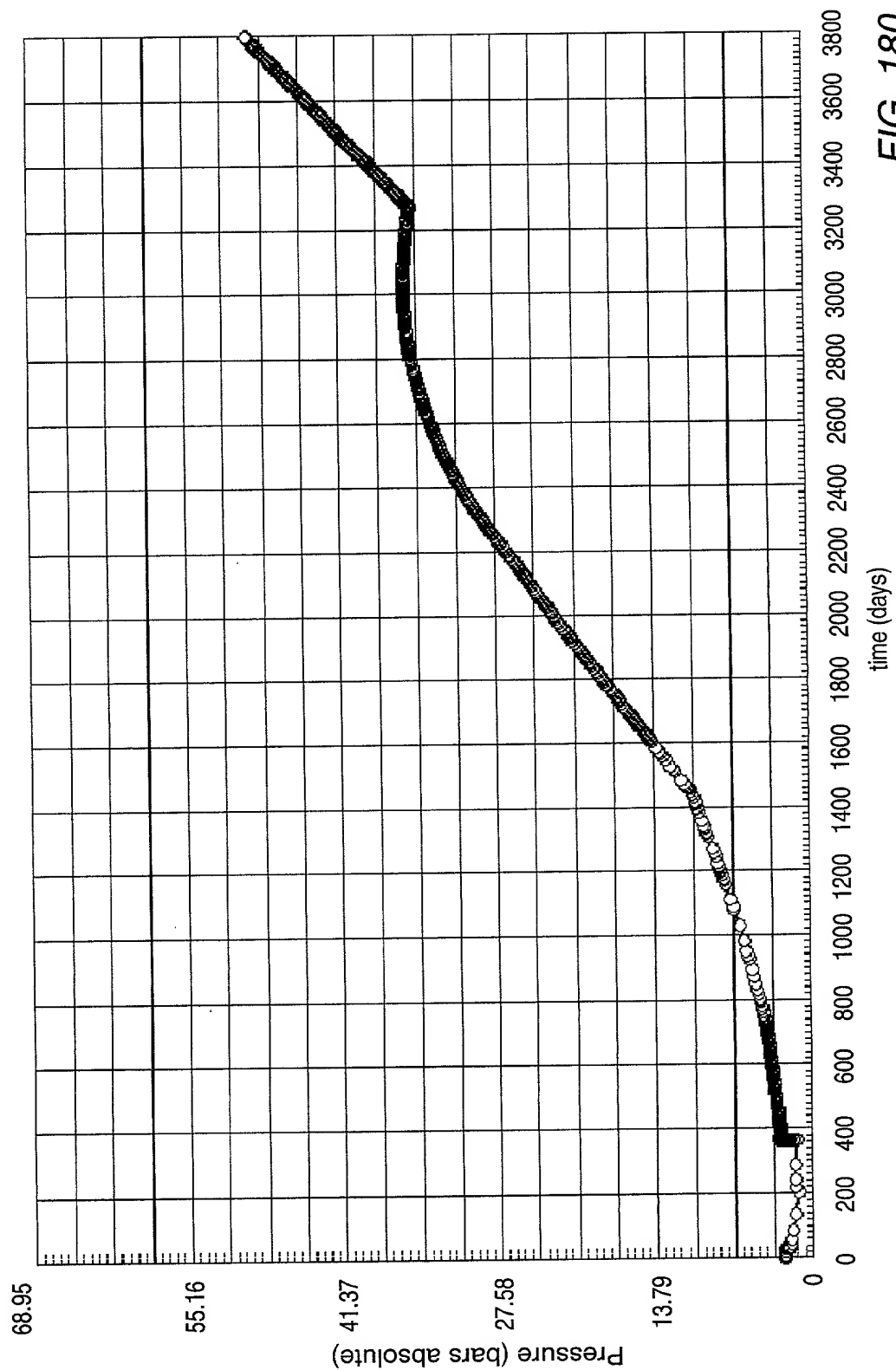


FIG. 180

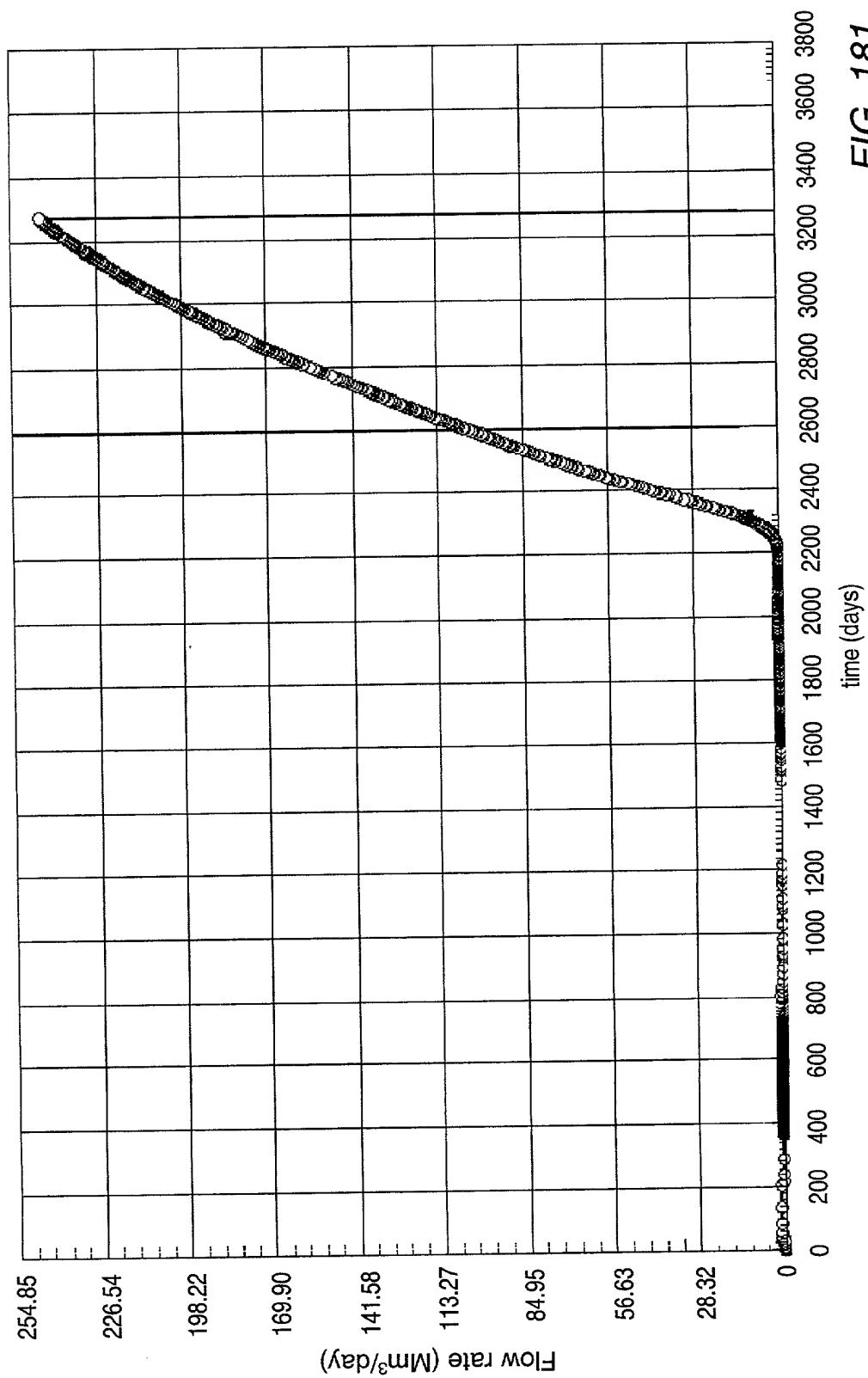


FIG. 181

FIG. 182

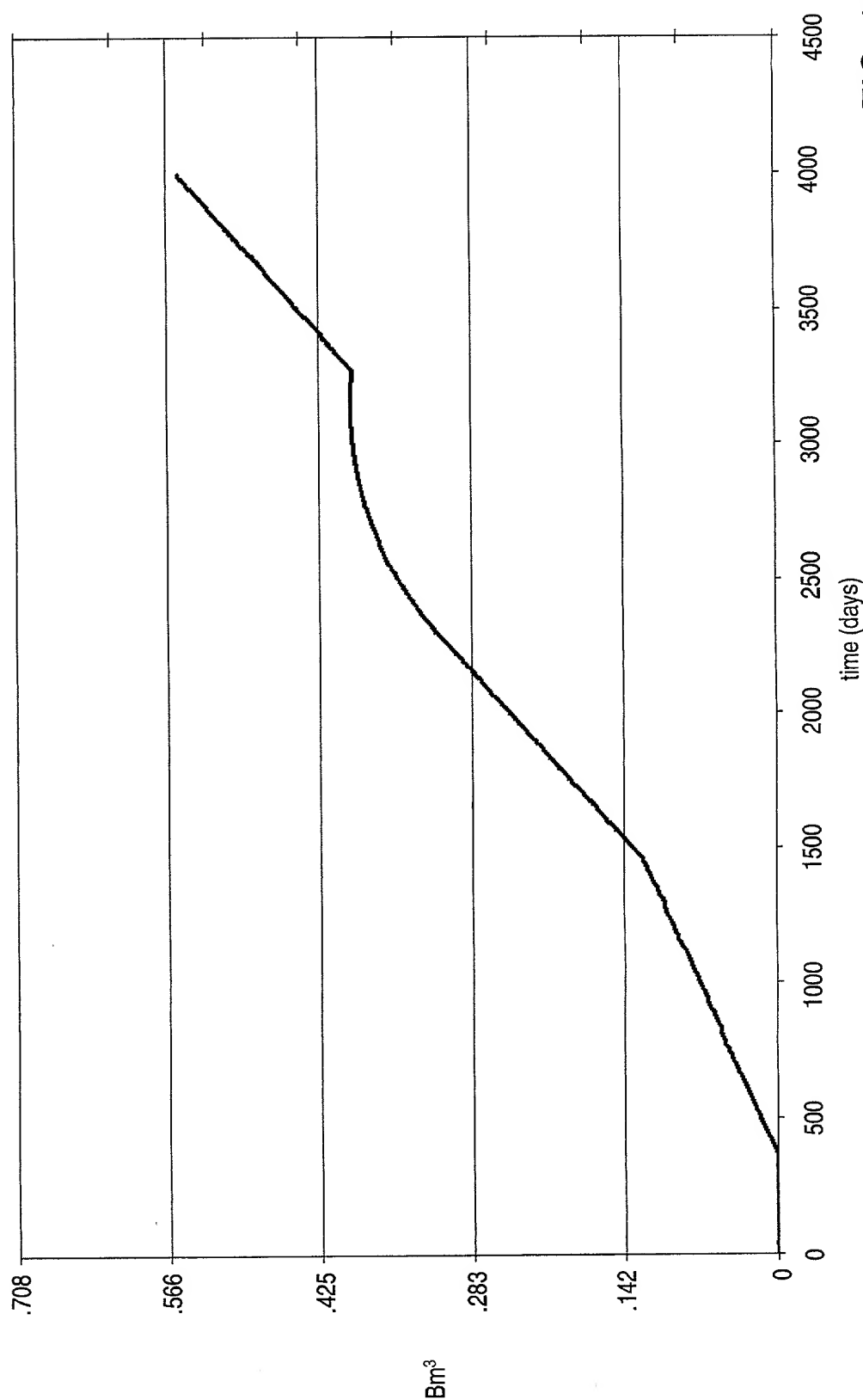


FIG. 182